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## Manufacturers' Record.

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### Coke in the South.

In the June number of the Manufacturers' Record was an analysis of the figures of the coal production in the United States, showing that 33,653,946 tons were mined in the South and 156,986,013 in the rest of the country. In the South 6,486,005 tons were used in the manufacture of coke, an increase of 657,893 tons, or 11 per cent., over that used in 1895, while in the rest of the country 2,811,794 tons, or 23 per cent. less, were used than in 1895. Somewhat similar was the amount of coke produced. In the South the increase was 10 per cent., or from 3,459,063 to 3,819,755 tons; in the rest of the country there was a decrease of 19 per cent., from 9,874,651 to 7,969,018.

During the past two years this industry has shown a steady development in the South. In 1886 there were 4612 ovens in six Southern States; in 1896 there were 17,378 in eight States. This is an advance of 277 per cent. In the rest of the country the increase in number was 60 per cent., from 17,985 to 29,566. The tons of coal used increased from 2,026,997 in 1886 to 6,486,005 in 1896, or 200 per cent. in the South, while elsewhere the increase was 64 per cent., from 8,661,975 to 12,208,417 tons. The output of coke was in 1886 in the South 1,216,911 tons, and in 1896 it was 3,819,755, an advance of 214 per cent.; in the rest of the country the advance was but 41 per cent. in the ten years, the totals being 5,628,458 in 1886 and 7,969,018 in 1896.

These figures, based upon the exhaustive report of Edward Wheeler Parker, of the United States Geological Survey, are but another indication of the steadiness of the advance of the industrial South. With Mexico calling for coal in great quantities; with the expansion of the field of furnaces and mills in a section rich with minerals of many kinds, it remains for sagacity and enterprise in the conduct of industries already established to enlarge the market for their output, to encourage the investment of other capital in similar lines, so that the natural wealth of the South may have its full development.

### Cotton-Goods Market.

In advance of the meeting of the New England Cotton Manufacturers' Association at Philadelphia the New York Commercial Advertiser published a suggestive article upon the text that one of the most serious problems manufacturing interests have had to face was the question of keeping employed all the cotton machinery in the country. It noted the increase in productive capacity and said:

The chief growth has been in the South. In 1892 the South was credited with 2,002,869 spindles, and in 1897 with 3,456,537—an increase of 1,453,668 spindles, or 72 per cent. This Southern increase has been almost entirely made on the coarser qualities of cotton goods. In the production of these labor at low wages and long working hours have been important advantages held up to now by Southern mills over mills in the North, and the result has been the transferring of most of the coarse cotton goods output to the former, and with it a very considerable proportion of the export business, which is mostly confined to heavy coarse plain and colored cotton goods. Northern mills, feeling the force of this competition, which, as the South perfects its manufacturing, is more and more difficult to meet, have been compelled to turn their attention to cotton goods of finer construction than they previously aspired to, and recently to contemplate, and in a few instances to experiment in, incursions into other branches of the textile industry.

The advice was tendered that, as the North moves toward the higher range of manufacturing, the South should, in addition to what it has already secured, gain a wider hold upon the export trade. This, of course, was upon the hackneyed assumption on the part of the North that the South ought not yet undertake to compete with the North in fine goods.

There is little room for doubt that when the South is ready to compete with the North in fine goods it will do so; but, dismissing that point for the present, the South and, indeed, the cotton manufacturers of the whole country have a solution of the existing problem in one section and an incentive to renewed efforts in the speech of Mr. Theodore C. Search, who, as president of the National Association of Manufacturers, and in the furtherance of his vigorous and persistent campaign for the development of this country's foreign trade, addressed the Philadelphia meeting on the subject of American cotton goods abroad. He showed that the value of annual exports of cotton goods by the few nations controlling that trade amounted to more than \$400,000,000, of which the share of the United States was less than \$20,000,000, and that of Great Britain more than \$300,000,000, and that the United States, producing more than one-half of all the cotton grown in the world, supplied less than 5 per cent. of the cotton goods bought by the other countries, while 95 per cent. of that trade was in the hands of Great Britain. France and Germany, which do not raise a pound of cotton at home. India, China, Turkey, Brazil and Argentina were pointed out as opportunities for enlarged markets for American goods. In conclusion, Mr. Search said:

The beginnings of the cotton manufacturing industries in the United States were viewed almost with ridicule by the British manufacturers, who declared that the spinning and weaving of cotton would never amount to much in the United States; but today we have about 17,300,000 spindles, and while we are adding to this number at the rate of 100,000 to 800,000 per year, Great Britain's cotton spindles are now decreasing in number year by year, about 3,000,000 having been put out of work during the past five years. British supremacy in the cotton goods trade is no longer unquestioned, and nowhere is this fact so well recognized as in England. In view of what American skill, enterprise and energy have accomplished in other industries, shall we be regarded as visionary if we entertain the hope that a large portion of Great Britain's vast export trade in cotton goods shall some day be ours? If we add a million dollars to our exports of cotton cloths, there is a positive gain to the country of just that amount, which can be expended for the products of our various industries. The cotton planter, the mill owner, the factory operative, the machinery builder and the supply man each receives a share, and nothing is withdrawn from any other industry. The extension of our foreign trade in cotton goods would not only relieve the home market of an embarrassing surplus of goods, but would dispose of the product of many new mills, give employment to thousands of additional hands and add to the business of the many branches of industry which depend upon the manufacture of cotton. The rapid development of the manufacture of cotton goods in the South has created new problems which must be solved, and the home market is not able to absorb the output of the old and new mills. There is no doubt in my mind that the foreign markets will not only take all our surplus, but also afford an opportunity for the further expansion of the industry. I believe that the most important matter which calls for the consideration of the cotton-mill owners of the United States at the present time is the expansion of the export trade in their products.

In Mr. Search's suggestion that the United States, being the producer of the raw material for English cotton goods, should become a greater trader itself, is a further suggestion of particular interest to the South. It is rather remarkable that two of the leading papers read before the New England Cotton Association should have dwelt upon the growing importance of the South as a cotton manufacturer. One of these papers was by Mr. Search; the other was by Mr. Arthur Parkinson, of Providence, R. I., who said that the South was now the cheapest market for certain classes of goods. Is not this manifestation, after all, the beginning of competition which will ultimately give this country the advantage over Great Britain in the cotton goods trade? India and China, and, indeed, Japan, are in the field themselves as manufacturers, but to the south of us are countries which may be developed as markets. It is for the Southern mill men to look to the cultivation of these markets. There is no surer way of hastening the destiny of the South, marked out by many considerations as the great cotton manufacturing centre of the world.

### The Armor-Plate Board.

According to a dispatch from Washington, a majority of the armor-plate board favors Birmingham, Ala., as the site for the proposed plant. This is not

surprising to those persons who have intimate knowledge of the wonderful resources of the Alabama region. It is gratifying, though, that such a favorable impression should have been made upon the representatives of the government. It must be remembered, of course, that the board has no power in the matter beyond the submission of information to Congress. But, should that body determine to establish a government plant, the favorable report of the board will naturally have great weight.

Its visit to the South, however, will not be without its effect, even should the plan not be developed beyond the present situation. The mere fact of such an inspection as has been made is an official recognition of the South as a manufacturer of iron and steel. The facts brought to the attention of the board about the Alabama furnaces as suppliers of the Carnegie works, and about the comparative cheapness of the products, have been heralded far and wide to the ultimate advantage of Alabama. In that respect, if in no other, the visit of the armor-plate board has been of benefit to the South.

### A Capital Object-Lesson.

Mr. D. O. Mills, of New York, one of the wealthiest men in America, has begun an experiment which, if successful, ought to be a salutary object-lesson for the country. He has built in the Bowery section of New York city what is known as the Mills Model House No. 1. It is nine stories high, and will accommodate 1500 persons in cleanliness and comfort. Planned with special reference to sanitation and convenience, and not designed for luxury and waste, it offers clean, comfortable rooms for twenty cents a day and three meals of wholesome food for forty-five cents. This arrangement enables one to live for \$4.55 a week, or \$236.60 a year, while its convenient location will result in the saving of car fare, a considerable annual item in a city where high rents have compelled hundreds of thousands of workers to live ten and twenty miles from the place of their employment. Should this enterprise pay, for it is an investment, other like buildings will be erected, with the ultimate result, perhaps, of wiping out the tenement system in New York.

Such a result will be an immense blessing for humanity, whether it is due to pure philanthropy, practical business or a combination of both. In Mr. Mills's case the project seems to have its basis in the belief that enduring philanthropy must be self-sustaining. To prove that this may be will be one important lesson of the Mills Model House.

But there is a much more important object to be gained. Planned upon the theory that men may live cheaply and well, the house offers an exceptional opportunity to study the power for good of aggregated capital. Such an undertaking would hardly be possible without the assembling of a large sum



of money in the hands of one man or in his virtual control. It is well known that a wealthy man is able to obtain the necessities of life for less than the man who has to buy by small retail and often on credit. This law may appear unjust to the poor man, but it is founded on reason, and is inexorable. It underlies whatever success may come to the Mills undertaking. Conducted upon business principles, one establishment accommodating 1500 persons can offer better accommodations at smaller cost than 100 establishments accommodating fifteen persons each under separate auspices. It may diminish the profits of 100 owners of miserable tenements, and may, indeed, drive them from business entirely, but what is the injury of 100 persons compared to the benefit of 1500, especially if at the same time is begun an undermining of the system which in large cities has been so prolific of vice, poverty and crime? Granted that the Mills House may have been started merely as a business investment, it is thereby serving a philanthropic end.

Naturally owners of tenements might object, and it would not be surprising to hear them joining in the tirades against capital and thereby removing themselves beyond the range of sympathy which might otherwise be extended to them. But they will be only repeating an old story which has been told since man has been able to assemble the forces of nature or artifice, hitherto wasted, into an economic and harmonious whole. But every telling of the story calls attention to the fact that any aggregation of capital which does not tend ultimately to benefit a larger number of persons than smaller sums on independent lines contains within itself the elements of its own disintegration.

#### DANGERS OF DEMAGOGY.

How Texas Has Suffered Materially from Its Blight, as Stated by General Claiborne.

Editor Manufacturers' Record:

I have read with profit your editorial in the Manufacturers' Record of August 6, 1897, headed, "The South's Opportunity." In very many other papers such an article, while clear and logical, would not have so quickly met my hearty endorsement. But the fact being that the Manufacturers' Record is the South's "picket" and best friend, causes me to rise up and bless this guardian for having sounded the alarm of the true danger to our dear Southland. No earnest man and sincere lover of the South will fail to thank your paper for its loving and faithful guardianship of the South, not for a day, but for years of fostering care.

The editorial seems inspired, and shows how jealously she has been guarded and her every interest watched by your great journal. The resources undeveloped in the South are wonderfully magnificent. Why have the resources remained undeveloped is the simple question. The answer, equally truthful as simple, is demagoguery—political demagoguery. That the political huckster teaches by an appeal to ante-bellum sentiment and sectionalism and often race prejudice is true. Political demagoguery in the South leads dangerously near anarchism. In cities, factories and mines the depths of treason's velvet talons are unsheathed. It gets into the legislation of the States, and ruin has followed as surely and completely as death in the simoon or from the vampire or the sleep under the foliage of the banyan upas.

In my own grand imperial Texas, fairer than the lands given to Father Abraham and richer than the valley of the Nile, the foetid distemper came. Devastation followed that a quarter of a century cannot efface. With the facts following your strong analytical and logical editorial it seems to be no accusation, but a prayer; no angry "crying out," but a protest for mercy to your section from the enemy in the household. Texas has been the greatest loser, because demagoguery is more virulent, and Texas has more to lose. The Creator has been generous to her princely domain. If there had been no demagogical legislation Texas would not have felt the shock of 1893.

The passage by the law-making branch of the State of what is known as the "alien land law" was the apex of the trouble. There were in Texas at the time many millions of foreign money invested in great herds of cattle, in mills and manufactories, in railways, in banking, and indeed directly and indirectly in every avenue of endeavor. In my own town there were \$750,000. This great sum was lent to the people at from 2 per cent. on call to 4 per cent. on one to five years' time, with privilege of renewal. Contracts had been made, but notwithstanding its "ex post facto" intent and purpose, in the face of the constitution it became a law on the statute books, signed by the executive. The panic came, with all the dire results. Great enterprises, such as railways, factories, rolling mills, furnaces, etc., were abandoned and all loans called in and withdrawn. The loss and stagnation were fearful. The lowest estimate that is made of the damage to the State of Texas is \$125,000,000 of money directly, and greatly more indirectly. It is true that the law, being unconstitutional, was quashed by the next legislature, but the patient is not yet restored. After the doctoring of the bill was had, an iron plant, with nearly \$1,000,000 invested, desired to bond the plant and a large body of ore land (the finest on earth) in order to continue improvements and perfect its manufactories. An agent was sent to the American money centre. No home capital was idle, and agents of foreign capital were induced to give a hearing. After a laborious argument of three hours a day for five days, showing that the fangs of the alien land law had been extracted, one of the syndicate merely asked, Has any of the legislators who enacted the "alien land law" sons? "Oh yes, certainly," was replied. "Well, sir, said he, "hereditary dampful runs in their families, and they may break into your legislature at any time, and we have no money for your State at any price, nor security on lands or personal property in Texas." Thus was caused, in one single instance, the laying idle of an investment of \$750,000 from that date to this, with such other great evils as it detailed upon the hundreds of other industries and persons dependent upon such enterprise.

It is true that manufactories have been built and operated since then. But they have not been paying fair compensation for their labor, nor making a fair dividend on the investment, because of the value of the money they have been forced to use. This alien land law is only one of the very many iniquitous statutory enactments of legislation in this God-given section. The laws of collection cost this State from 5 to 10 per cent. annually. Go into the great commercial emporiums of the East or West and ask if they are seeking Southern trade. "No, sir; no sir." "Why?" "Because we have no remedy on your stat-

utes against thieves. We have all the losses we want when we sell to a man who runs the goods into Texas, where the laws protect him in theft." Again, go into the house that is seeking trade in Texas, and there are twenty-five or thirty lines of samples laid out for the traveling salesman. See the prices of California and compare them with the line laid out for Texas, and Texas is marked 10 to 15 per cent. higher than those for California. There is a cause. It simply says: "It costs 15 per cent. more to get their money in Texas than it does in California." (See the statutes of collection and remedial writs of the two States). Demagoguery costs the people 10 to 15 per cent. on every article they wear or eat in Texas. The huckster on the hustings during the canvas declared railways, telegraphs and all common carriers and aggregated capital of any character the enemy of the farmer, mechanic or any other honest man. His appeal is to their prejudice and their passion, and when he gets his office he is a sycophant to capital, gets his passes and agrees not to be too hard or industrious (for a consideration very often). The "bete noir" of the State and nation is he.

Since the close of the unhappy struggle between the sections of the Union, sentiment and sectionalism have been the political platform of all parties, thereby creating a doubly greater loss to the entire nation since than during the war; and the South, being the more sentimental, and her people being more easily hoodwinked than the stoical East, West and North, the greater burden has fallen on her. In Texas there could be used today in legitimate business half a billion of money at 4 per cent., with hypothecations equal to a government bond, if the laws were liberal or just to all men. Without it Texas is stagnant in comparison with what she could and would be with fair legislation. It applies to the entire South in ratio with the different gifts of nature, Texas having had a bountiful help at the hands of an All-wise Creator. I would, as one of her most deeply interested citizens, be willing for the Manufacturers' Record to say, because of its love for the South and its vast storehouse of wisdom, just what the South should do to gain her reasonably due success, and I know that it would be to her what the shower is to the parched earth.

As a native and a sincere lover of this beautiful Southland, and one who has given the best years of his life to her in peace and in war, I thank you for your watchful and generous guardianship and your fearless exposition of her enemies, as well as resources, and commend your editorial utterances for the naked truth in them.

JNO. M. CLAIBORNE.

Rusk, Texas.

#### ENGLISH IRON INTERESTS.

An Expert's Opinion About the Results of American Competition.

The iron and steel industries of Great Britain are greatly depressed, and there is no prospect that they can be restored to anything at all approaching their former prosperity. Many causes have combined to bring this about, but none has had so marked an effect as the low prices at which these articles can be produced in the United States. It took many months to open the eyes of the British iron and steel manufacturers to the splendid progress their American competitors have made in these industries, and most of them have not yet learned how it has been brought about. Recently such conditions have so seriously affected their interests that they have been

compelled to give careful thought to the subject, which is now being freely discussed in British newspapers, and especially in those that are the organs and exponents of these industries. Among recent publications by the London Times is one equally remarkable for its frankness, and for the conservative common sense displayed by its writer, J. Stephen Jeans, editor of the Iron and Coal Trades Review. Mr. Jeans has taken a prominent part in the discussion of labor questions, and several years ago was intrusted with the duty of organizing a joint commission of employers and workmen in the iron industry, for the purpose of ascertaining the costs and the conditions of production on the Continent of Europe. Since then what is known as the "engineering difficulty" has come to the front and added greatly to the stringency of the situation. For several months a large army of men has been on a strike to force their employers to make eight hours a day's work, and to pay extra wages for overwork. They demand that private corporations and firms shall follow the example of the government, which some time ago adopted this plan in all its public works. The employers object seriously to submitting to what they term "trade-union despotism," of which Mr. Jeans says:

"An employer cannot have fair play, and, consequently, cannot have the same chances of manufacturing successfully and economically if he is liable to be hampered, confused and worried at every turn by trade-union regulations, and this constitutes one of the essential points of difference between the industrial system of this country and that which prevails in the leading manufacturing establishments of the United States.

"It is not alone, however, a question of whether the employers have the same amount of control over their workshops and workers in this country as in the United States, nor even of whether the workers are as industrious and capable. Neither should I, for one, be disposed to attribute too serious importance to the fact of the United States having wrested from our own country individual contracts here and there which our manufacturers and artisans might have reasonably expected to see placed at home.

"This, however, cannot be the case when the natural conditions are such as to give one country enormous advantages over another, whereby the cost of producing commodities that are at the foundation of manufacturing industry is reduced to a point that competing countries cannot approach. The United States have now attained to such a low range of manufacturing costs as no European country can excel, and probably none can rival. Only within the last few days I have met leading Americans, with whom I have discussed this question from the points of view of both countries, and have found it difficult, as a result, to resist the conclusion that this country has lost its supremacy, held undisputed until lately for generations, as the cheapest iron-producing country in the world. I have had placed before me many figures which clearly proved that Great Britain cannot now produce either pig iron or finished steel so cheaply as the United States. I know a good deal of the conditions in Great Britain. I thought I had ascertained something of the conditions in the United States, as the result of several visits to that country, and of having had large and perhaps unexcelled opportunities of seeing the progress there made in manufacturing industry. But I confess I was totally unprepared for the figures which large American manufacturers have placed before me as to the cost of production at their numerous and



colossal establishments. Those who are really concerned to know the truth can convince themselves without much difficulty of the superior economic situation enjoyed by the United States. The cost of producing Bessemer pig iron in the most favorable circumstances is now in that country 10s. to 15s. per ton less than the corresponding costs in Great Britain. The difference in the cost of producing a ton of steel is at least as much, and in the majority of cases is likely to be a good deal more. I know of cases where the labor cost on a ton of billets and rails is 25 to 35 per cent. less than the lowest labor cost I have ever heard of in this country, although the rate of wages paid in America is materially higher. Quite a number of iron works in this country pay from 15s. to 17s. 6d. per ton for their coke, which in the neighborhood of Pittsburgh is delivered at works for 5s. to 6s. per ton. The United States not only command richer and cheaper ores, but they have the fundamental advantage of possessing unlimited indigenous supplies, whereas this country is now producing 30 per cent. of its total output of iron from imported ores, about the extent and duration of which there is a considerable amount of anxiety.

"Now the bearing of all this on the present dispute is manifest. American engineers can purchase the materials of construction at a considerably lower range of prices than is possible in this country. This fact would alone place them in an almost impregnable position, even assuming that all other things were equal. But, so far from all other things being equal, it is one of the most notorious facts bearing upon the comparative industrial situations of the two countries that American mechanics—partly because of their mechanical equipment, partly because of their greater industry, and partly because of the inducements offered to superior capacity and the absence of the restraints on such superiority common in this country—are able to produce, man for man, a cheaper product than we do in Great Britain. The qualitative superiority of the American mechanic may be doubted, but his quantitative superiority admits of no doubt, and, when this advantage is united to cheaper materials of construction, we may well feel apprehensive as to the future of our engineering industries from the point of view of international competition.

"It needs not that I should add anything by way of pointing the moral conveyed by these facts. With some knowledge of what our American cousins are doing, both at home and abroad, I would adjure the leaders of the workmen in the present unfortunate dispute to look into these things for themselves. The bottom facts of American competition are not difficult of access. The facts of continental competition are already pretty well known. The element of competition is fundamental. If it had no existence, there need be little difficulty in adjusting the differences now playing havoc with our great mechanical industries. But if foreign competition—in which term, of course, I include the ability to compete—is as real and formidable a danger as I have here indicated, then surely it can need no argument to prove the fatuous folly of attempting to ignore it, or denying that it must become, and even is already, the controlling factor. Let the engineering workmen investigate this matter for themselves, as we did some years ago in the iron industry, and let it be understood that, if these things are so, the demands which have originated the present strife shall be indefinitely postponed. A resumption of work pending the result of such an investigation should surely be possible of arrangement.

The employers already know the conditions that they must inevitably meet if they are to live. If these conditions are not likewise known to the workmen, they cannot too soon find out and lay them to heart."

When the strike began to which Mr. Jeans refers, the Federation of Engineers had a very large fund upon which to draw for the support of the thousands who have thrown up their work. They have already paid out several hundred thousand pounds, and the entire fund will soon be exhausted. The workmen employed by the government are now contributing of their wages to sustain those who have gone out. The leaders of the federation are now considering the proposition to call out all the thousands now employed in naval construction and of thus embarrassing the government and bringing matters to a crisis. The admiralty gives no indication of any apprehension that this will be done, although it would be a sore blow to British ambition for a great increase of its fighting squadrons.

To American iron and steel producers the condition of those trades in Great Britain is one of great moment. The frank confession that "the quantitative superiority of the American mechanic admits of no doubt," and that to this advantage is united "the cheaper materials of construction," tells the danger to those British industries from international competition. Our British friends may find some way to settle their present difficulties and to resume production, but while the United States commands "richer and cheaper ores" and has "the fundamental advantage of possessing unlimited indigenous supplies," her supremacy is assured.

#### SOUTHERN STEEL OUTLOOK.

Suggestion in the Sale of Birmingham Iron in Sweden.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., November 2.

Add rather a firmer feeling this past week in the iron market to the last report, and it gives a fair statement of its present condition. The volume of the week's business, contrasted with the preceding weeks of the month, shows an appreciable increase. But the business is not active. Warrant iron continues to be offered, and while it does not come on the market in any large quantity, it is a factor that cannot be ignored, and is used as a handle sometimes to depress furnace prices. The regular quotation for gray forge is \$7, with sales reported to you last week at \$6.75. It can be bought yet at \$6.75, but only in limited amount, as the sellers are reluctant. Any demand of consequence would put it back to \$7 as inside price. Gray forge warrant iron is currently quoted at \$6.50, but it has been offered at \$6.40, and the party who had the offer took the iron from the furnace in preference at \$6.75. To local buyers this would indicate that purchases direct from furnace at the thirty-five cents difference was preferable. The volume of warrants offering seems to be decreasing. Some business has been accepted for 1898 delivery on basis of prevailing current quotations, but only to a very moderate extent.

The export trade has shown some life the past week, and to that is to be attributed the increased business noted above. All the reports from British iron merchants show a very large decrease in stocks. This presages a demand in the immediate or near future to the advantage of this district. The sales last week were to Great Britain, Austria, Italy, Germany and Sweden. Great Britain has been for years, and is now, drawing

much of her iron from Sweden. And here we are selling to Sweden. If we can sell to that country, the balance of the world must become tributary to us for iron. All doubting Thomases should now go into their holes. Facts can't be ignored.

The fact that we are selling to Sweden suggests the thought that, perhaps we are, or will be, getting our iron back in the shape of Swedish steel; and this, in turn, originates the thought, if Sweden can make A1 steel out of our iron, why can't we? The expense of freight there and return, insurance, interest and other charges attending are alone a fine profit. The answer to this last question is in plain sight of the people of Birmingham every day. It is the steel mill of the Birmingham Rolling Mills. Since it commenced operations, the demand for its product has gradually increased, until the capacity of its two completed furnaces is found insufficient to meet promptly the demand. In not a single instance has the product gone to any user of steel that it did not secure a foothold that gives it a preference over competition. No official authority can be obtained for the statement that the steel capacity will be increased, and probably nothing will be said of it till everything is ready to build. That's their way. But there is no hazard in predicting that before next summer the capacity of the steel mill will be more than doubled. But one mill won't make us a steel centre. But when the attention of the steel world is directed to the expanding capacity here it will result in more mills; and these, in turn, will beget steel-using industries. These latter are our great need now.

Shipments of iron still continue very free, and the leading interest reports decrease in stocks during October of 30,000 tons, which duplicates the September decrease. To illustrate the fact of the cheapness of production here and of the acceptability of Birmingham work in the great centres of competition, it can be stated that the Howard-Harrison Company will soon establish a complete line of agencies in the principal centres of business both in Great Britain and on the Continent. The newspaper report of a contract for 100,000 tons of coal for a Mexican railroad, officials will not confirm. It is nothing unusual to sell large quantities of coal to Mexico, which has become one of our most valued customers. The abrogation of the differentials by the United States government against the Mexican marine enlarges the coal-carrying fleet and will increase the coal trade between the two countries. The change in the weather, so desired, has come, and we may now look for business to resume its normal channels.

J. M. K.

#### RESOURCES OF CHARLESTON.

Industrial Future of the Capital of West Virginia.

Charleston, W. Va., containing an estimated population of 18,000, is situated on the north bank of the Great Kanawha river, at its confluence with the Elk river, fifty-eight miles from the Ohio river, 212 miles from Cincinnati, O., and 369 miles from Richmond, Va., and is the most prosperous and important commercial centre between these two points.

Geographically it is nearer the centre of the State than any other city within her borders. It is situated on the line of 38½ degrees north latitude, nearly on the line of Yeddo, Japan, San Francisco, Cal., and Athens, Greece, the most delightful and healthy belt on the globe.

The State capital was located here in 1872, the present Statehouse being completed in 1884. It is a fine structure, costing half a million dollars. Kanawha

county, of which Charleston is the county-seat, is the banner county of the State, both in point of wealth and population.

The assessed value of real estate in the city for 1896 was \$2,773,630, and of personal property \$1,152,590.

Charleston's wholesale houses, forty-six in number, do an aggregate annual business of about \$7,000,000. The city has three national banks and two State banks, with an aggregate capital of \$725,000, and an aggregate average deposit line of \$1,590,000. All of these institutions are as solid as the rock of Gibraltar, and are in a flourishing condition. There are also five building and loan associations that have contributed materially to the growth of the city.

West Virginia possesses an estimated coal area of 16,000 square miles. Pennsylvania has only 12,000 square miles, and Kentucky 9000 square miles. Charleston is practically in the centre of the field, while timber, iron ore, fire clay—in fact, nearly all of nature's products that, through man's ingenuity, may be transformed into manufactured articles, for which there is a steady demand throughout the civilized world, are almost at her very doors, or of easy access both by rail and river. Natural gas is also found here, and recent developments indicate that almost the entire surrounding territory is likely to prove one of the richest oilfields in the world. Cheap raw material, cheap fuel and unexcelled transportation facilities form a trio that cannot fail to appeal to all who desire to invest in manufacturing enterprises, and Charleston offers them all, together with an industrial population, who are more than willing to meet capital half way, that it and labor may go hand in hand. Already the city has attracted the attention of manufacturers from distant points, and many of them have located their establishments here, among the most important being furniture, sash and door, bed and bedding, dye and chair factories, woolen mills, machine shops, foundries, boiler works, saw and planing mills, brick and dock yards, ice factories and others of less importance. These manufacturing enterprises furnish work for upwards of a thousand employees, with monthly pay-rolls amounting to \$10,461.50, and do an annual business amounting to several millions.

Charleston's industrial enterprises are almost universally prosperous, and the products of some of her factories have attained a national reputation. Ward's tube marine boilers, manufactured here, are considered of the highest standard, and are used on the Pennsylvania ferryboats in New York, by the national government on their large ocean cruisers, and a number of yachts all over the world. Thayer's mining machinery is shipped to all parts of this country and many foreign countries, and the products of the Tanners and Dyers' Extract Works are exported to Russia, Germany and nearly all of the foreign countries. Although the salt industry has declined to a great extent, Charleston still ranks as among the largest producers of that necessary condiment.

The general government authorized the expenditure of \$3,385,200 in order to give the Great Kanawha river slack-water navigation for its entire length by the construction of twelve movable locks and dams. For an east and west outlet Charleston has the Chesapeake & Ohio Railway, one of the most liberally managed lines in the country, with distributing facilities surpassed by none. The Kanawha & Michigan and Ohio Central lines give Charleston an outlet to the Great Lakes and the cities of the Northwest. The Charleston, Clendennin & Sutton Railroad, completed from Charles-



ton to Claytown, and which will shortly be constructed to Sutton, where it will connect with the West Virginia & Pittsburgh Railway, opens up one of the finest sections of coal and timber land in America, and is destined to add much to the wealth and general prosperity of Charleston.

Few cities of Charleston's size can boast of an equal number of handsome buildings, both public and private. This fact is the subject of general comment on the part of visitors. The most important of the buildings are the Statehouse, United States Government Building, City Hall, County Courthouse, Burlew Opera House, Masonic Temple, Kanawha Valley Bank Building and many others. Two first-class modern hotels, with a number of cheaper but comfortable hostels, afford ample accommodations for the traveling public.

Property in Charleston is amply protected by an efficient fire company and a first-class electric-alarm system. Another feature of which the city has occasion to boast is its water works, which furnish pure water from the Elk river fresh from the mountain springs. Gas works were established over twenty-five years ago, and about ten years ago an extensive electric-light plant was built.

A city hospital building was erected during the past year at a cost of over \$25,000, and other charitable institutions supported by private subscriptions take ample care of the sick and unfortunate.

Some of the finest public school and church buildings in the State are to be found in Charleston, and all the leading Christian denominations, also the Hebrew congregation, are well represented. The people are accomplished, hospitable and generous. Politically the city is so evenly divided that predictions as to the result of an election are the vaguest uncertainties.

The minerals in the surrounding hills and the waterway of the valleys made Pittsburg the great manufacturing and commercial centre that it is. The conditions that surround Pittsburg and Charleston are similar, except that the former is on the edge of the great Appalachian mineral belt, while the latter is in the centre of it. With the exception of coal, Pittsburg must now haul the minerals which supply her factories from considerable distance, while Charleston has them in abundance right at her feet. The finest timber lands in the United States are to be found along the Kanawha and its tributaries, the Coal, Elk, New and Gauley rivers. The same territory is rich in natural gas, petroleum, coal and hematite iron ores of a high grade, and in profuse quantities, while copper, lead and other metals are found in lesser quantities in the same field. The great possibilities of West Virginia are just beginning to be appreciated at their true value. The public is just awakening to the fact that there is far greater wealth under the hills of the Little Mountain State than there is on the alluvial plains of the West, and the United States census of 1900 will show that West Virginia has made a greater proportionate gain, both in wealth and population, as well as internal improvement, than any State in the Union during the past decade between 1890 and 1900. This influx of capital, brain and brawn began in the oilfields of the northwest part of the State a short time ago, and will sweep to its southern and eastern boundary before another decade shall have passed. Charleston, being nearest the geographical centre, being the financial centre, the business centre, the railroad centre, greatest centre of population and chief river town, with excellent transportation facilities to all

points of the compass, will become the commercial metropolis, as it is already the capital of the State.

JNO. A. THAYER.

Charleston, W. Va.

### INDUSTRY AND PROSPERITY.

**What Diversified Manufacturing Has Done to Develop the City of York, Pa.—A Proof that Self-Help Is the Best Help Strikingly Illustrated.**

By D. Allen Willey.

Among the Northern communities which are closely associated with the South by commercial and other relations is the city of York, Pa. In fact, it is doubtful if any city of its size north of Mason and Dixon's line is more closely identified with Southern development or has a deeper interest in the progress of the South. Although its population is less than 30,000, its name is a familiar one in all portions of the Southern States on account of the popularity of the output of its industrial plants. Through the medium of the Manufacturers' Record and their traveling representatives, establishments for the manufacture of machinery of different kinds and of wood and metal work have found a ready market, and in many instances a steadily increasing trade in the South. In fact, it can be said that a number of the industries in the city depend upon the South for a greater portion of their business. The wide-awake and enterprising manufacturers have appreciated the opportunities for trade with this particular portion of the country, and in many instances they, to use the popular phrase, "have stolen a march" upon their competitors in other communities, and as a result have reaped the benefits of their forethought and energy.

The city of York can indeed be called a model manufacturing community, and while, as already stated, the prosperity and development of its industries have been due in a large measure to the business which it derives from the Southern territory, credit must be given the men who have been so far-sighted as to anticipate the results of the establishment of this or that industry, and have contributed liberally of their capital to inaugurate the various enterprises. Home brains and home money have played an essential part in the industrial importance of the city, although many additions to this or that factory have been required, and many a costly piece of machinery has been added to plants here and there, the money for which came from Southern patronage.

The city of York is one of the most prosperous in this country today from all points of view. Why? Because its people believe thoroughly that self-help is the best help. They work not only for themselves, but for the good of the community. They realize thoroughly the prosperity which industries of various kinds bring to them, and what is better still, invest largely of their means in such enterprises.

But to go into the subject a little farther and see how this sentiment of the people results in benefit all around. In the first place, an ample and excellent system of water works is provided; the city has a model fire department; the streets are beautifully laid out and well kept, a portion of them being paved in a manner which would do credit to a much larger town; in the suburbs an enclosure is set apart for fairs and exhibits containing a set of modern buildings and other features which tend to attract the farmers from many miles around, thus increasing the relations between the merchants and

agriculturists, which is assisted by an admirable system of roads reaching all parts of the country; both gas and electric plants afford ample illumination, while a modern hotel assists in advertising its advantages among people out of the city. Such economy is shown in municipal affairs, however, that the city tax, with all these improvements, including an excellent school system, is but seventy cents on \$100 of assessed valuation, the property being assessed at two-thirds of its actual value.

Most of the industries which furnish the business life blood to York are familiar to Southern readers. The A. B. Farquhar Company, which manufactures farm machinery of various kinds, and has the entire country for its market, employs from 550 to 600 men, paying out many thousands of dollars weekly. The company has been working on full time for a long period, and, according to the statement of its representatives, the business prospects are excellent in the South, especially in South Carolina and Tennessee, where prompt payments are a feature. The factory is one of the largest of the city, occupying considerably more than a block of ground.

The S. Morgan Smith Co., in the western section of the city, is noted for its hydraulic apparatus, and has supplied equipments to some of the largest cotton mills and other plants in the Southern States. This company has a brisk trade in the South especially, and is just able to keep up with its orders, having no stock on hand. The vice-president of the company says that he trusts to be able to get a supply of apparatus ahead of orders during the lull which the company usually experiences during a portion of the winter. These works are frequently in operation night and day.

The Billmeyer & Small Co., which has its plant located here, is one of the largest car builders in the United States, the works having a capacity for twenty-five freight cars per day and employing 600 men when working on full time. While this company has experienced to a certain extent the depression which has been prevalent, especially among rolling-stock manufacturers throughout the country, Mr. Billmeyer, who has studied the conditions carefully, anticipates a very prosperous season next year, and it is believed that the works will participate in the general revival in car building which is expected in the near future, as they are admirably equipped for work of a high quality, the rolling stock being noted among railroad men throughout the country.

One of the concerns which has given the city such a reputation for its industries is that of Broomell, Schmidt & Co., who have a large plant on the Northern Central Railroad within the city limits. This company manufactures specialties in steam power and heating apparatus, and constructs an economizer which has a wide reputation. It has been very successful of late in sugar-refinery work, and has secured some large orders from New York and vicinity. It has also installed several steam-heating plants which have given it a wide reputation. A proof of the demand for its goods is shown by the fact that the firm has never known what it is to work on short time. For the last four months it has been obliged to employ a night force to fill its orders. During one day recently it shipped ten carloads of work to Northern parties, and while, as a member of the firm states, it is obliged to take orders at times at a small margin of profit, owing to the great competition in its special lines, the quality of its productions has

made it a successful bidder on some of the most important contracts recently given out. The concern is just completing a large steam-heating and power plant for the new Elizabeth College buildings at Charlotte, N. C. It also has a contract with Mr. John R. Shaw, of Carthage, N. C., for a complete steam-heating apparatus to be placed in his new hotel, which is now in the course of construction. In addition to these, it has the contract for installing the Webster system of steam heating in the new Monticello Hotel at Norfolk, Va. This work is being installed under specifications and drawings prepared by C. A. Ball, heating engineer, with Messrs. Warren Webster & Co., Camden, N. J. The heating plant will be the best and most complete ever erected in a hotel south of Baltimore.

The York Manufacturing Co. is a signal illustration also of the benefits which manufacturers in this place have derived from Southern territory. Its ice-manufacturing machinery, steam engines and tank work have been placed in many parts of the South, and are giving great satisfaction. The works are located in West York, and employ 500 men. The company calculates in the near future to build a large addition to its plant, which is made imperative by a constant increase in its business with the South and elsewhere. This company has found the Manufacturers' Record a remarkable medium for reaching Southern business. Mr. G. W. Major, general manager, recently stated that since they had placed an advertisement in the Manufacturers' Record he had received more inquiries from the South than from all other advertising which the company has done in this section of the country, although it has patronized a large number of journals. An exhaustive article relative to the machinery of the York Manufacturing Co. was published recently in these columns.

Messrs. Hench & Dromgold have acquired an extensive reputation in the South, as well as other portions of the country, for saw-mill machinery and engines. This firm has a large plant in West York, convenient to the Pennsylvania and Western Maryland railroads, affording it excellent facilities for shipping by the car lines or otherwise. Its fall trade has been from 60 to 70 per cent. larger than for the last two or three years. The works are, however, a little slack at present, this being the dull season. The outlook for the trade next year is better than it has been, and it is expected that spring trade will be very large, especially in wheel spring tooth harrows, cultivators, corn planters, etc.

Messrs. C. H. Dempwolf & Co. have had an extensive reputation throughout the country for the quality of their fertilizing machinery. The firm operates a large chemical factory in the suburbs, and has been especially successful with a fertilizer mixing machine which has found a ready sale.

Mr. F. A. Quickel is another of York's industrial promoters who has enjoyed a busy season. Mr. Quickel also manufactures engines and farm machinery, selling a large quantity through agents in different sections of the country. This plant has been working on full time for a number of months.

Finishing touches are now being put on a three-story woodworking factory for Messrs. Jacoby & Bro. This firm had the misfortune to sustain a considerable loss by fire some time ago, but nothing daunted, it began immediate arrangements for rebuilding, and has a three-story building especially adapted to



its requirements. It prepares hardwood for furniture and other interior work, and has such a reputation in this line that as soon as completed the entire plant will be placed in operation in order to fill the orders now in. It is probable that for several months at least, a night force will be employed. It is interesting to note in this connection that the firm obtains considerable of its lumber from Norfolk and vicinity, which is dressed and prepared and a portion sold in the locality from where it came as raw material.

The companies referred to represent but a portion of the manufacturing interests of the city. Others might be detailed, but those mentioned in themselves indicate its place as an industrial community. Still no reason exists why many a Southern town should not be as successful in the line of progress as the city of York, although the number and extent of its factories would be a credit to a city of ten times its population. We have gone into details in order to show what can be accomplished in the South, where, as already stated in so many instances, the people have far more advantages as to cheapness of fuel, raw material and labor, and transportation facilities.

It would prove profitable for the members of boards of trade and other business organizations in the South who are desirous of advancing the interests of their individual localities, to have representatives visit York and see for themselves the proof of the assertion so often made in the *Manufacturers' Record*, that "self-help is the best help."

#### Literary Notes.

**A History of American Literature.** By Fred Lewis Pattee. Publishers, Silver, Burdett & Co., Boston.

This is a text-book for schools and colleges. But it lacks the faults of many publications put forth as text-books. There is a philosophy pervading in rapid tracing of the fundamental principles underlying the development of American literature, and the critical spirit is judiciously applied. Within its compass everything that every student might desire to see could not be included, but the plan of the book is to give the outline and the reference in such attractive form as to direct the student into the proper channels for more extended investigations. The range of the volume is from colonial days until the present, a connected view of the whole field being given in spite of the arrangement of sections by the topical method. From the book itself one may obtain a fair, general knowledge of the various schools of American literature, and with it as a guide to a well-selected library he may save time and labor in studying particular authors. There is quite a liberal, though incomplete, treatment of the South; in places too much space, perhaps, is given to some writers and too little to others, but no author in this field can expect to please everybody, and Professor Pattee has presented the opportunity in his references and authorities for anybody to supply what he may regard as an oversight.

**English Lands, Letters and Kings.** By Donald G. Mitchell. Charles Scribner's Sons, publishers, New York city. Price \$1.50.

This volume, the fourth in its series, opens upon that always delightful country of hills and waters, the Lake District of England. We find Robert Southey, Thomas De Quincey, Christopher North, Thomas Campbell, Henry Brougham, Sydney Smith, Hazlitt, Bulwer, Young, Disraeli, Lord Byron and others of note

in the delightful land of literature. The Prince Regent of those days puts in his appearance, so does the bluff sailor, King William IV; Walter Savage Landor, too, that master of language; Leigh Hunt; Thomas Moore, the sweet singer, with glimpses of jolly Captain Marryatt cracking his for'castle jokes. Altogether the author of those "Reveries" which fifty years ago set youth to dreaming of love in a new light of purity and pathos has produced a work in this series which is a crowning glory to his old age.

**Men I Have Known.** By Very Rev. F. W. Farrar, Dean of Canterbury. Illustrated with numerous fac-simile letters and portraits. 12mo., cloth, gilt top, \$1.75. Publishers, T. Y. Crowell & Co., New York and Boston.

Next to seeing men of greatness with our physical eyes comes the pleasure of seeing through the eyes of a cultivated and accurate observer, who is quick to catch the characteristics and to interpret the personality. Such a person is Dean Farrar, who writes in this, his latest book, in a charming and yet dignified style, of Tennyson, Browning, Arnold, Professor Maurice, Dean Stanley, Darwin, Tyndall, Huxley, Lowell, Whittier, Holmes, Archbishop Tait, Phillips Brooks, Cardinal Newman, Macaulay, Carlyle and a number of other celebrities. Capital anecdotes, brilliant repartee and capital criticisms makes this volume invaluable in aiding one to a clear appreciation of some well-known men.

**"A Dictionary of American Authors."** By Oscar Fay Adams. 444 pages; price \$3. Publishers, Houghton, Mifflin & Co., Boston, Mass.

The compiler of this work will be remembered as the writer of the "Handbook of American Authors," published in 1884. The present volume is an outgrowth of the handbook referred to, and the most valuable features of the latter have been retained. That more than 6000 names are enrolled in this dictionary is convincing proof to the discerning of the value of the work. To editors its value is readily recognized, and to those who are lovers of books or interested in authors and literature its presence in the bookcase can but prove a constant source of convenience and profit as a work of reference.

**Phroso.** By Anthony Hope. Publishers, Frederick A. Stokes Co., New York.

If Anthony Hope had written nothing else, this romance would place him in the front rank of story-tellers. Full of dramatic incidents turning upon an original and intricate plot, "Phroso" is a one-reading volume. You may not have time to finish the story at one sitting, but you will realize that in that is your loss, and you will be tempted to curtail your sleep instead. Entertaining from cover to cover, full of human nature and contrasts of light and shadow, with fifty situations, in each of which is condensed the force of many a volume, the story is pre-eminently clean and refreshing. Its author could wish for no better introduction to America than this.

**Tales from Hans Andersen.** Illustrated; 16mo., 75 cents. Publishers, T. Y. Crowell & Co., New York and Boston.

For half a century the charming fairy stories of Hans Christian Andersen have been household joys for youngsters throughout the civilized world. They have been food for millions of happy children, and are rightly held up as models, not only of simple style and beauty, but also of wholesome moral instruction. The present volume contains a selection of the best from the famous fairy story-teller.

## RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### Passenger Trains of the Future.

At the recent meeting of the general passenger agents at St. Louis, Mr. D. B. Martin, manager of passenger traffic of the Baltimore & Ohio, read a paper on railroad passenger traffic which is attracting considerable attention outside of the association. The paper is very exhaustive, and enters into a discussion of the transportation business of today which brings out many features of interest. Mr. Martin refers to the remarkable progress which has been made in electric motive power for both the passenger and freight, but believes that the general utility of electricity has as yet not been determined.

Relative to passenger trains of the future he writes as follows: "Sixty miles per hour can be made and maintained, even for long distances. With double tracks and track water tanks as recognized necessities, the device for supplying fuel en route would be the only desideratum, and whether this be a mechanical appliance for taking coal without stopping, or the use of a more compact and powerful fuel, is for our motive-power departments to determine. By giving an express train these facilities and relieving it of all baggage, mail and express cars, a speed of sixty miles an hour can be maintained from New York to San Francisco, and as this distance by the shortest route is about 3500 miles, the running time consumed would be fifty-eight and one-half hours. Allowing a margin of one and one-half hours for stops at central points where passengers can be concentrated either by means of accommodation trains or electric lines, representatives in New York might safely guarantee intending passengers to land them in San Francisco in two and one-half days after their departure from New York. Such a train would necessarily be limited to the exclusive purpose of carrying passengers. Mail, baggage and express would be forwarded separately, for, in addition to the saving in weight, much valuable time is lost in loading and unloading at stopping points, which would thus be avoided. The present objection of the average passenger to be separated from his baggage must be overcome, and he must be educated to consider it beneath his dignity to patronize a mixed train of freight and passenger coaches when better accommodations can be obtained. This is not a mere possibility, but the probability of the first quarter of the next century.

"While it is true the expense of such a train would be great, yet when track and road have been provided to meet its necessities, freight and second-class traffic could be carried at much less expense than is required at present, and passengers would be willing and could well afford to pay a higher rate of fare through the saving of time and expense en route."

### Work at Port Arthur.

"The Kansas City, Pittsburg & Gulf officials propose to spend \$2,500,000, as fast as work can be pushed, in constructing terminal facilities at Port Arthur for the transfer of freight from railroad to steamship," says the Kansas City Star. "A considerable part of this money will be devoted to dredging the ship canal from Port Arthur to deep water. Extensive docks will be constructed, including a dry-dock 500 feet long, capable of accommodating big ocean vessels and warships.

"These improvements will finish the great enterprise of the Kansas City, Pittsburg & Gulf in building a railroad from the centre of the West direct to the ocean, to meet a new line of ocean vessels running to European and South American ports. There is an element of audacity that is really admirable in the achievements of the men who are at the head of this company. To undertake to build a trunk line railroad, 770 miles long, through a new country to the sea, and to create a new seaport and open up a new line of ocean traffic, certainly is a project requiring sublime confidence and a good deal of business genius. The railroad has been constructed through a period of depression, when it was difficult to interest capitalists in new enterprises and when old railroad companies were struggling to maintain their solvency.

"What remains to be done to complete the great system is a comparatively small task, and the new railroad company, with its connecting lines of steamers for carrying the products of the great surplus grain and live-stock producing region of the country to the markets of the world, enters upon its career at the beginning of an era of prosperity which promises a large and steadily-growing volume of transportation business. The farm value of the products of the West will be immensely increased by this enterprise. That has been proven already.

"The Kansas City, Pittsburg & Gulf Railroad does not yet possess its own harbor and seaport terminals, but it is completed to a point that freight can be carried over short connecting lines to New Orleans and Galveston, and its competition in the business of carrying grain to the seaboard has forced such a readjustment of rates that the farmers of Kansas and Nebraska have received a good many hundred thousand dollars more for this year's crops than could have been obtained if the rates of former years had prevailed this season. It is natural that the people of the West should look upon the new line as an enterprise of great value and as intimately associated with their welfare."

### An Important Virginia Extension.

It is understood that work is to begin at an early date upon the proposed extension of the Norfolk, Virginia Beach & Southern Railroad to what is known as North River, in Tidewater Virginia. While this extension will be only about twenty miles in length, it will change the transportation situation in Virginia and the Carolinas very materially. It is stated that the point on North river where the railroad will terminate can be reached by large steamers, and that it is connected by a deep waterway with the Albemarle and Pamlico sounds and the navigable rivers entering them. Heretofore the Atlantic Coast Line and Norfolk & Southern Railroad Co. have controlled most of the business which originates in the country tributary to these waters. Several steamboat lines connecting with the Norfolk & Southern road have enabled this company to make large shipments of truck and other farm products, also fish, to Portsmouth, whence it was hauled in carload lots to New York by way of the New York, Philadelphia & Norfolk road. It is understood that the Norfolk, Virginia Beach & Southern Company will operate a line of steamers in connection with the railroad as soon as the extension referred to is completed, and will be a competitor for this business, which will be hauled to Norfolk for shipment North.

The country through which the new line will be built is level, and it is estimated that the expense for the entire



work will be about \$200,000. As readers of the Manufacturers' Record are aware, the Norfolk, Virginia Beach & Southern Railroad is now controlled by New York capitalists, who have changed the gauge of the road to standard and have made a number of improvements at Virginia Beach, a summer and winter resort, at which it now terminates. The new line will have a tendency to largely increase its freight traffic. Alfred Skitt, of New York, is president of the company, and B. P. Holland, of Norfolk, superintendent.

#### New Elevator at Pensacola.

The elevator being constructed for the use of the Louisville & Nashville Railroad Co. at Pensacola, Fla., will be ready for operation about November 15. While not as large as some of the elevators recently constructed in the South, it is one of the most complete for the purpose which has yet been built in this country. It is 150 feet long, seventy-five feet wide and 158 feet high, having a total storage capacity of 500,000 bushels. The grain is received directly from the cars to the elevator by receiving pipes, and six cars can be unloaded at one time, the receiving capacity being 12,000 bushels of grain an hour. The belt gallery or conveyor, by which grain is transferred to the vessels, is 1880 feet long, and is said to be the longest in the United States. Power is supplied by a 400-horse-power Corliss engine, and, in addition to the machinery for operating the elevator, the engine is connected with a powerful fire pump, reaching pipes which extend to all parts of the building. The elevator has a drying and cooling apparatus, by which grain in a damp or heated condition can be thoroughly treated before being loaded on vessels. The contractor for the elevator was the Moulton & Starrett Co., of Chicago. J. N. Huston, resident engineer of the Louisville & Nashville, represented the railroad company in overseeing its construction.

#### The Columbia & Maryland.

It is understood that negotiations for the sale of the Columbia & Maryland electric road, which have been under way for several weeks, are nearly closed, and that the purchasers include a number of the stockholders of the first company which promoted the enterprise. Among those interested are David M. Newbold, R. S. Carswell, Henry A. Parr and George Yakel, all of Baltimore. It is understood that the Philadelphia syndicate which has been interested in the line has disposed of its interest to these gentlemen, and that a company will be formed, with Mr. Parr at the head, with the view of completing at least a portion between Ellicott City and Baltimore. Mr. Parr is president of the Baltimore & Northern Electric Railway Co., which, as already stated in the Manufacturers' Record, is completing an electric line between Baltimore and several towns in the northern suburbs.

#### A New North Carolina Line.

The Wellington & Powellsville Railroad Co., of Edenton, N. C., has begun work upon a railroad twenty-one miles long, which will be a feeder of the Atlantic Coast Line and will connect with that system at Ahoskey, N. C. Its other terminus is at Windsor, and it is being built through a timber tract. J. W. Branning, president of the company, in a letter to the Manufacturers' Record, states that while the road will be used chiefly for lumber purposes, it will carry both passengers and freight. About two-thirds of the grading has been completed, and it is intended to finish the construction work and have the road ready for

operation as soon as possible. The other officers of the company are Horton Corwin, Jr., secretary and treasurer, and C. E. Branning, superintendent.

#### Missouri, Kansas & Texas Report.

The annual report of the Missouri, Kansas & Texas Railroad Co., recently made public, shows that while the gross earnings of the company were \$441,328 more than last year, the expenditures increased to the extent of \$633,301, resulting in a deficiency of \$191,973. The increase in expenditures was caused largely by improvements to the roadbed and the purchase of rolling stock. A number of wooden bridges were replaced by elaborate steel structures, and it is stated that only nine wooden bridges remain between Denison, Texas, and St. Louis. A large number of locomotives and cars have been secured. General Manager Allen in his report says that the property is in better condition than ever before in its history.

#### President Plant's Opinion.

H. B. Plant, president of the Plant Railway & Steamship Co., who has recently been in the South, is quoted as saying in an interview that business is steadily improving and that capital continues to seek opportunities for investment in the Southern States. In Florida many of the planters are making more of a specialty of food crops and are becoming more independent of outside supplies than heretofore. Mr. Plant thinks Tampa has a wonderful growth and is developing rapidly. The prospects for tobacco cultivation are very encouraging in this State.

#### Air Motors on Illinois Central.

According to a dispatch from Chicago, Ill., the Illinois Central is seriously considering the plan of operating several of its lines in the suburbs of that city by compressed air. What is known as the Hardie motor, which has been so much discussed in Washington and New York, will be used, if any, and the apparatus will be installed by the American Air Power Co. of New York. It is claimed that the amount of compressed air required to operate each car is fifty-one cubic feet, which is stored at a pressure of 2000 pounds.

#### Western Maryland's Officers.

At the annual meeting of the Western Maryland Railroad Co. and its tributary organizations, John M. Hood was re-elected president and general manager; J. T. M. Barnes, secretary and treasurer, and B. H. Griswold, general freight and passenger agent. Mr. Hood has been at the head of the company since 1874, and was re-elected without any opposition whatever. His long term of service is an indication of the confidence which the stockholders of the company have in his ability.

#### Mobile & Ohio Report.

The recent annual report of the Mobile & Ohio Railroad Co. is attracting considerable comment in New York financial circles. One authority on railroad financial matters says: "It is obvious that the management of the road has been careful, energetic and alive to the interests of the territory served, otherwise such results as are shown in the report would never have been placed on record."

#### Union Station for Kansas City.

According to a dispatch from Kansas City, Mo., the railroad companies entering that city have determined to erect a union station which will cost at least \$3,000,000 and will have thirty tracks.

Plans for the station are now being prepared, and it is stated that arrangements for the construction of the station will be completed by January 1.

#### Railroad Notes.

F. J. Snively has been appointed freight agent at Galveston for the Missouri, Kansas & Texas system.

T. G. Golden has been appointed superintendent of terminals for the railroads entering Galveston, Texas.

The courts have ordered the sale of the Morristown & Cumberland Gap Railroad, which extends from Morristown to Corryton, Tenn. It is forty miles long.

A dispatch from Charleston, S. C., states that the Greenwood, Anderson & Western Railroad is to be sold by order of the court at a date to be decided upon in the near future.

George S. Wilkins has been appointed consulting engineer of the railroad commission of Alabama. A portion of his duties will be the examination of the railroad bridges in the State.

The company controlling the Washington county branch of the Baltimore & Ohio Railroad has re-elected Charles K. Lord, president, and F. L. Hildebrandt, secretary and treasurer.

The court has ordered the sale of the Dallas Street Railway, at Dallas, Texas, upon the petition of the Mercantile Trust & Deposit Co. of Baltimore. This road is about twenty-five miles long. A portion of it is operated by animal power and the balance by electric motors.

The Baltimore & Ohio receivers recently had a proposition to operate what is known as the Alexandria Junction branch made by a college professor, who desires to educate young men in railroad work. The proposition was declined, owing to the amount of business which is now done on this division.

The steamship Milwaukee recently sailed from New Orleans for Liverpool with a cargo which breaks the record for shipments from the South. It consisted of 23,850 bales of cotton, 33,200 bushels of grain, 38,818 pieces of staves and 2300 oars. It is stated that the cargo represented the carrying capacity of 500 freight cars.

The Port Deposit & Havre de Grace Steamboat Co., recently organized, has given the contract to Charles Reeder & Sons, of Baltimore, for a steamboat for this business. The steamer is to be completed and ready to begin operations about April next. W. C. Eliason has been appointed president and general manager of the company.

A dispatch from New Orleans, La., states that the bid of J. W. Castleman for what is known as the Napoleon Avenue Railroad franchise has been accepted by the city council. Mr. Castleman represents the Orleans & Jefferson Railroad Co., which has made arrangements to construct the line, as already stated in the Manufacturers' Record.

The interstate commerce commission of Washington notifies the Manufacturers' Record that it has decided to grant an extension of time to certain railroad companies who claim they are unable to equip their freight cars with automatic couplers and train brakes within the time specified by act of Congress. The time-limit for this purpose was January 1, 1898. The railroad companies interested are required to file a statement of the number of cars owned and proportion equipped with automatic couplers, etc., on or before November 20 with the commission. If the company has sufficient grounds for obtaining it, an extension of time will be granted.

## TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

#### NEW ENGLAND MILL MEN.

Their Visit to Southern Cotton-Manufacturing Centres.

After adjournment of their meeting last week at Philadelphia, members of the New England Cotton Manufacturers' Association started upon a week's trip to cotton-manufacturing centres of the South as the guests of the Southern Railway. They visited Danville, Greensboro, Salisbury, Asheville, Reidsville, Spartanburg, Union, Columbia, Greenville and Charlotte, where the party dispersed. At all their stopping points the visitors were received by special committees, and every opportunity was given to derive pleasure and profit. Those in the party were: R. W. Eaton, president of the association and agent of the Cabot Manufacturing Co., Brunswick, Me.; M. W. Quinn, agent of the Hamilton Woolen Co., Amesbury, Mass.; Roland R. Kelley, agent of the Williamstown Manufacturing Co., Williamstown Station, Mass.; George R. Weeks, Clinton, Mass.; J. O. Hannum, agent of the Saratoga Victory Mills, Victory Mills, N. Y.; H. H. Culver, Taunton, Mass., superintendent of Elizabeth Poole Mills; C. H. Gorton, agent of the Ray Cotton Co., Woonsocket, R. I.; A. S. Wattles, of L. R. Wattles & Co., Canton Junction, Mass.; Joseph D. Aiken, Ponemah Mills, Taftville, Conn.; William R. Noone, Morgantecock Mills, Camden, Me.; A. E. Adams, superintendent Whitinsville Cotton Mills, Whitinsville, Mass.; C. H. Truesdell, agent of the Attawangan Mill, Killingsly, Conn.; J. W. Pead, agent Merrimack Manufacturing Co., Lowell, Mass.; H. P. Garland, treasurer Loom Picker Co., Bideford, Me.; Charles M. McCloud, Point Malcolm Mills, Philadelphia, Pa.; E. H. Sampson, of O. H. Sampson & Co., of New York; O. B. Truesdell, agent Fiskdale Mills, Fiskdale, Mass.; Ira J. Martin, superintendent Bozrahville Mills, Bozrahville, Conn.; Frank B. Comins, agent Aerophor Co., Providence, R. I.; James H. Billington, manufacturers' supplies, Philadelphia, Pa.; H. S. Brinkerhoff, manager Greene Economizer Co., Boston, Mass.; Mrs. R. W. Eaton, Mrs. Roland R. Kelley, Mrs. M. W. Quinn, Mrs. H. P. Garland, Mrs. J. W. Pead, Mrs. Charles M. McCloud, Mrs. J. O. Hannum, J. H. Drake, Richmond, Va.; N. J. O'Brien, Greensboro, N. C.; A. L. Langellier, Boston, Mass.; M. V. Richards, Washington, D. C.; S. I. Roberts, Danville, Va.; L. W. Clarke, Greensboro, N. C.; C. K. Oliver, Columbia, S. C.; W. B. Whaley, Columbia, S. C.; D. A. Tompkins, Charlotte, N. C.

#### Georgia's Textile School.

The movement for the establishment of a textile department at the Georgia Technological School has been strengthened by the following recommendation of Governor Atkinson in his annual message to the legislature:

"Georgia, being near the centre of the cotton-growing area of the Union, should provide for the instruction of her sons in the manufacture of cotton goods. New England has taken steps in this direction for the protection and advancement of her manufactures. The textile schools which have been established at the North are bound to militate to the detriment of our own cotton industries unless they are met with similar institutions in the South. A department of textiles should be added to the School of Technology for the purpose of giving our



young men the opportunity of becoming experts in the manufacture of cotton goods. I am assured that such a measure would receive substantial aid from many prominent firms and citizens, and on account of the present excellent equipment of the school, the first cost would be reduced to a minimum."

#### ROUND BALES IN ITALY.

##### Great Satisfaction Given by Them at the Mills.

Mr. H. Kuhn, of Genoa, Italy, writing to Mr. Herbert D. Martin, of the American Cotton Co., regarding the consignment of round bales sold to Mr. Giuseppe, Defferrari fu Fscio of Busalla and Genoa, says:

"The bales arrived at the mill from Genoa in good condition, and all the marks, weights and numbers were easily distinguished. Every bale was entirely covered by a closely-woven wrapping, which protected every particle of the lint from fire, water and theft. The bales which had been sampled were reconditioned by closing the sample holes by a few stitches. Following the company's instructions, in my presence, an iron bar was placed through the bale as an axle, the projecting ends of the bar being placed on constructed supports. Next the strips of wrapping were cut at one end and unraveled by turning the bale on the axle. Continuing the process the cotton began to unroll as would a roll of carpet until the last particle dropped from the iron rod without the least resistance. The cotton was then placed by hand from the floor into the trough and carried by the belt into the 'opener.' It seems to me that had the bale been unwound directly over the trough, it might have been carried directly into the opener. The round bales are of a greater density, and therefore smaller and a great deal more easier handled than the old bales, and have an advantage in their uniformity and also in the absence of metallic bands. I am convinced that the new system possesses all the merits which are claimed for it, and I believe that spinners will find in it many advantages over the old system besides these mentioned above."

To Mr. Kuhn Mr. Fscio wrote as follows:

"Complying with your wish for my opinion on the outturn of the twenty-two cylindrical bales bought through you from the American Cotton Co., of New York, I beg to confirm to you that the bales arrived at my mill in good condition, and every bale being completely covered by a strong and closely-woven cloth, marks, numbers and weights could easily be distinguished. The bales which had been sampled had been put in order by closing the sample holes by putting a few stitches. I was also satisfied with the easy manner in which the bale unrolled to the last, and altogether the outturn has been to my utmost satisfaction."

#### Textile Notes.

The Brooks Manufacturing Co., of Greer Depot, S. C., will put in equipment for the manufacture of cotton batting.

The Virgin Cotton Mills, of Huntersville, N. C., contemplates adding 2920 spindles to its mill, which would make 5000 in all.

The Wadesboro Silk Mills, of Wadesboro, N. C., is putting in sufficient machinery to double its capacity. Forty hands will be employed.

The Spencer Mountain Mills, of Lowell, N. C., now operating 5000 spindles, will put in about 2000 additional spin-

dles complete with accessory machinery.

The Maginnis Cotton Mills, of New Orleans, La., is now operating 40,752 spindles and 1166 looms, and may possibly add from fifty to 100 new looms very soon.

The Trenton Cotton Mills, of Trenton, Tenn., will increase its equipment about 600 spindles at the first of the year. The company is now operating 6000 spindles and 150 looms.

The Wehadkee Cotton Mills, of Rock Mills, Ala., will put in 500 new spindles in the near future. The company is running at present 3000 spindles and seventy-five looms.

The erection of a knitting mill at Burlington, N. C., has been commenced by Messrs. W. C. Curtis and Jas. Stewart, Jr. As soon as the building is completed an equipment of machinery will be installed.

The Holt-Morgan Mills, of Fayetteville, N. C., intends increasing its equipment to capacity eventually. Present equipment is 6000 spindles and 250 looms; capacity is 12,000 spindles and 500 looms.

Mr. E. A. Fincher, of Toonigh, Ga., has recently added machinery to his Walesca Mills, on the Little river, near Toonigh and Woodstock, Ga. Machinery for producing 1000 pounds of rope daily was installed.

The Kincaid Manufacturing Co., of Griffin, Ga., may make large additions to its cotton mill next year. The equipment (which is now 6410 spindles and 228 looms) will probably be more than doubled.

Mr. F. W. Adams, of Pittsfield, Mass., manufacturer of a patent dryer felt used in cotton mills, intends to establish a plant in Columbia, S. C. The new plant will be operated by electric power developed at the Columbia Water Power Co.'s plant, and the machinery used in the Pittsfield plant will also be installed in the new factory.

On a bill filed in the United States Court at Charleston, S. C., by Messrs. A. Klipstein & Co., of New York, a temporary receiver has been appointed for the Standard Cotton Mills, of Rock Hill, S. C. The temporary receiver is Mr. P. E. Poag, and cause is to be shown by December 1 why the receivership should not be made permanent.

Mr. W. C. Wood, general superintendent of the Mount Vernon Company, which operates a cotton manufacturing plant in the suburbs of Baltimore, has been presented with a handsome service of silver plate by the employees of the company. The present is a testimonial of the esteem in which Mr. Wood is held by the hands at these mills. It consists of 157 pieces.

The stockholders of the Elmwood Manufacturing Co., of Columbia, S. C., have met and organized, with R. J. Palmer, president, and C. C. Johnson, secretary. Directors were chosen as follows: R. J. Palmer, C. C. Johnson, J. C. Daniels, J. R. Nowell, Page Ellington, F. W. Williams, I. J. Miller, Green Jackson and Henry Hunter. This company is to build a mill to be operated by colored labor.

The Cohankus Manufacturing Co., of Hohokus, N. J., has completed arrangements for the removal of its cotton-batting mill to Paducah, Ky. A new building to afford 44,400 feet of space has been contracted for, and equipment of machinery for producing 2,000,000 pounds of batting annually will be installed. A force of 120 operatives will be employed. The power machinery will include a 350-horse-power engine. Mr. F. P. Toof is agent of the company at Paducah, Ky.

## COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

#### The Market for Cottonseed Products.

New York, N. Y., November 2.

Today the elections are proceeding and business in all lines is at a standstill. At the close yesterday the market for cotton oil was slightly firmer than a week ago, especially with regard to crude. The latter variety is not offering freely in the South, due in part to the yellow fever blockade and the belief that higher prices will prevail in the near future. The local trade is unimportant, while exports are slow. Packers, East and West, are credited with having purchased considerable quantities of crude direct from the mills during the past two weeks. It must be conceded that the ruling trade conditions are decidedly unsatisfactory. Lard has declined since out last and is now quoted at 4.30 cents, Chicago, January delivery, and compound lard at this market  $4\frac{1}{4}$  to  $4\frac{3}{4}$  cents. Tallow is still weak, being nominally quoted at  $3\frac{1}{4}$  cents. The advance of English oil 3d. per 112 pounds has increased the number of inquiries from England, especially with reference to off grade oils. Lack of freight room has tended to restrict exports, and while earlier in the week several important shipments were made, there is nothing doing at the moment. With the prevailing low prices and adequate freight-room accommodation it is felt that a large volume of business could be effected. Even under present conditions at 23 cents for summer yellow a large business could be transacted, but  $23\frac{1}{2}$  cents is the lowest offered. The following are closing prices: Crude, 20 cents; crude, loose f. o. b. mills,  $14\frac{1}{2}$  to  $17\frac{1}{2}$  cents; summer yellow, prime,  $23\frac{1}{2}$  cents; summer off grade,  $22\frac{1}{2}$  to 23 cents; yellow butter grade, 27 to 29 cents; white,  $26\frac{1}{2}$  to 27 cents; white winter, 29 to 31 cents; winter yellow, 29 to 30 cents; salad, 29 to 30 cents, and soap stock,  $\frac{1}{2}$  to  $\frac{5}{8}$  c. per pound. Refined oil is quoted at Liverpool 15s. 6d., with a firm market on the advance. Exports for the week aggregate 6450 barrels, and receipts 4940 barrels.

Cake and Meal.—The market abroad is firmer, and a good consuming demand is promised during the forthcoming winter. With the removal of the quarantine restrictions from shipping points in the South a heavy export trade will take place.

#### Cottonseed-Oil Notes.

The Alabama Cotton Oil Mill, at Huntsville, Ala., began operations on the 27th ult. It employs 100 men, and will run steadily for six months.

The Georgia Cotton Oil Mill, at Atlanta, was completely destroyed by fire on the 31st ult. The loss is estimated at \$177,000, with \$78,000 insurance.

The Merchants & Planters' Cotton Oil Co. having added the manufacture of soap to their plant, are now in full operation, with a daily capacity of 100,000 pounds.

The foreign exports of cottonseed products from the port of Galveston, Texas, last week were as follows: Cottonseed meal and cake, 365,185 sacks, valued at \$403,105, and 418,000 gallons of cottonseed oil, valued at \$130,100.

The Frost Cotton Oil Co., of Frost, Navarro county, Texas, was chartered last week, with a capital stock of \$20,000. The incorporators are T. J. Sheppard, D. W. Bennett, D. K. Robison and R. L. Robison. The purpose of this corpora-

tion is to manufacture and sell cottonseed oil.

Cottonseed products in Texas are moving slowly, and the demand at the moment is limited, with values easy. The Houston Post of the 30 ult. quoted the market weak at the decline, with the demand limited. Prime crude oil, loose,  $14\frac{1}{2}$  to 15 cents, and prime summer yellow oil 17 to 18 cents per gallon. Prime cottonseed meal and cake \$13 to \$13.50 per short ton, and linters, per pound,  $2\frac{1}{4}$  to  $2\frac{1}{2}$  cents, all f. o. b. mill Texas interior points, according to location.

The market in New Orleans for cottonseed products is fairly active, with values about steady and unchanged. Receivers' prices are reported as follows: Cottonseed, \$8 per ton of 2000 pounds net to the mills, no commission of any kind to be added; cottonseed meal jobbing per carload at depot, \$16.50 to \$17 per short ton of 2000 pounds; oilcake for export, \$18.50 to \$19 per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment, strictly prime in barrels per gallon,  $17\frac{1}{2}$  to 18 cents; loose per gallon,  $15\frac{1}{2}$  to 16 cents, according to location of mill; refined cottonseed oil, prime in barrels per gallon, at wholesale or for shipment,  $23\frac{1}{2}$  cents; cottonseed hulls delivered per 100 pounds, according to location of mill, 10 to 15 cents; linters, according to style and staple—A,  $3\frac{3}{4}$  cents; B, 3 cents; C,  $2\frac{1}{2}$  to 3 cents; ashes, none.

#### Electric Lines in Washington.

The Capital Traction Co., it is understood, has let most of the contracts for the underground conduit electric system on its line in Washington. E. Saxton is general contractor for the work. It is calculated that the laying of the conduit and street work generally will cost \$250,000. The equipment will be for fifteen miles of track, and the necessary cars and power station will cost about \$750,000. It is stated that the line will be ready for operation in the spring of 1898.

#### Large Stemmery in North Carolina.

The new tobacco stemmery of Messrs. Woodson, Long & Co., at Roxboro, N. C., was recently completed and has been in operation for several weeks. The stemmery is employing 150 men, and will soon employ 175. The drying-room, built after plans by one of the firm, has three fans and 1000 feet of piping, with a capacity of 5000 pounds a day, which is kept at from 125 to 140 degrees and requires five hours to dry. It makes two dryings each day, thus giving a capacity daily of 10,000 pounds of tobacco. The drying arrangement is an innovation in that it dries from the top of the room, the current coming down through the tobacco. Ordering is done on the same principle. A steam boiler of 35 horsepower and a 16-horse-power engine furnish the power for the plant. The product is packed in hogsheads for export shipment.

The Hartzell Handle Co., of Huntington, W. Va., wants to buy a three-lathe handle mill complete, with power plant, located in a good white hickory timber district in West Tennessee.

The Bessemer City Cotton Mills has been incorporated at Bessemer City, N. C., by Messrs. J. A. Smith, J. A. Pinchback, J. T. Smith, C. A. Thornburg, J. B. Wolfe and F. P. Smith. The capital stock is placed at \$25,000.

The Wayne Cotton Mills, of Goldsboro, N. C., expects to treble its capacity in the near future, and with that end in view is now putting in position a new engine. The company has at present an equipment of 4000 spindles and 110 looms.



## MECHANICAL.

### Pneumatic Tube System.

The line of pneumatic tubes for the transmission of mail underground now

A general idea of the mail tube system is given when we say that it consists of a circuit of iron tubes laid underground, and through which letters and other mail matter is transported in carriers to its destination by means of

tion. By thus machining the ends a practically continuous tube, with no shoulders, is formed. A mandrel eighteen inches in length and eight and seven-sixty-fourths in diameter at the centre, tapering to eight inches at the

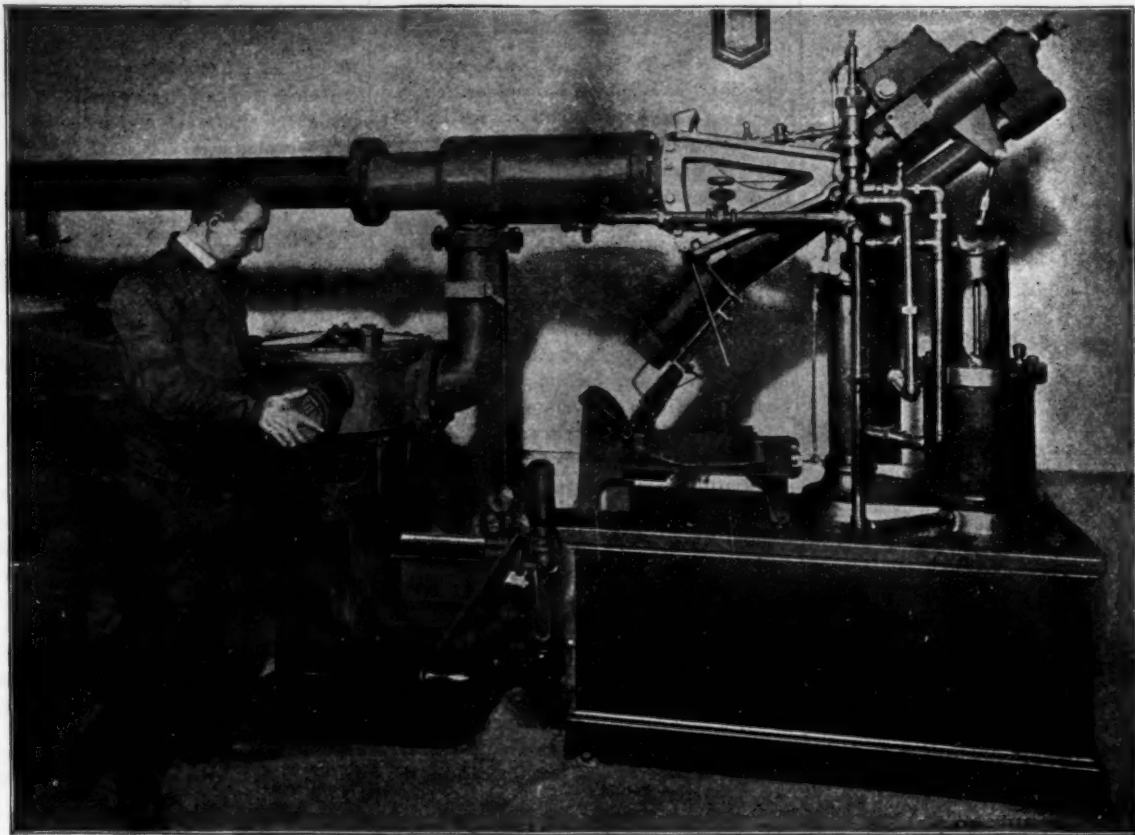
air is sent through the outgoing tube to the Produce Exchange, from whence it flows back through the return tube to the postoffice, passing through the receiving apparatus and into a tank to receive it. The sending apparatus is simply a valve, and consists of a short section of tube supported on trunnions and enclosed in a circular box. This can be turned so as to receive the carrier. It is then turned by a handle until it coincides with the main line of the tube, and the carrier is driven forward at once by the air pressure. The style of receiver depends upon the pressure at the station. If this exists as in the case of the Produce Exchange line, the tube cannot be opened to allow the carrier to come out. In that case the receiver consists of a movable section of tube about twice the length of a carrier, closed at one end, supported upon trunnions, and normally in a position to form a continuation of the main tube, from which the carriers are received. Just before the carrier reaches the receiving chamber the current of air passes out through slots to a jacket. By a system of air cushions, valves and cylinders the pressure is relieved and the receiver is tilted to permit the exit of the carrier.

The carrier is a flat sheet of steel bent into a cylinder, riveted and soldered. It is two feet long and seven inches in diameter. The front end is a convex disk of steel, stamped in the desired form, secured to the body by rivets. A buffer of felt is attached to the end. The carrier is supported in the tube by two bearing rings made of fibrous woven material, located on the body of the carrier a short distance from each end. These permit it to pass through a bend in the tube of minimum radius without becoming wedged. The rear end of carrier is closed by a hinged lid and special lock, which insures the impossibility of the carriers opening during transit.

Carriers, when empty, weigh about twelve pounds; loaded, from twenty to twenty-five. They hold from 600 to 800 letters each.

### A Well Machine.

In recent years the drilling of artesian wells has come to be common, and in the machinery invented for the purpose much



SENDING AND RECEIVING APPARATUS OF THE PNEUMATIC TUBE MAIL SYSTEM.

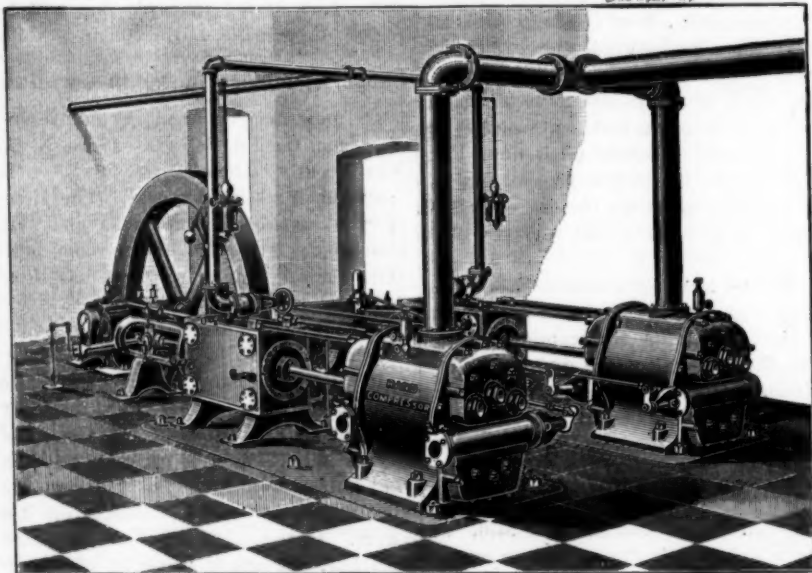
operating between the Produce Exchange and the general postoffice at City Hall, New York, length of line about 4000 feet, is but part of a system of rapid and economical mail delivery

compressed air.

Carriers may follow one another at intervals of about six seconds, which experience indicates is the time required to avoid contact. In the line opened be-

ends, is run through on completion of each joint. This pipe is laid in trenches from two to six feet below the pavement, supported by having the ground firmly tamped about it.

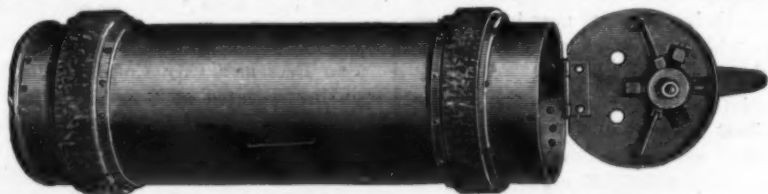
The inside diameter of the pipe is eight and one-eighth inches, increased to eight and three-eighths inches at the bends. This is the greatest diameter that can be profitably employed without resorting to carriers on wheels. The power used for transmission is compressed air at a comparatively low pressure. This is supplied by a Rand improved duplex air compressor, built by the Rand Drill Co., of 100 Broadway,



RAND IMPROVED DUPLEX AIR COMPRESSOR, USED WITH PNEUMATIC TUBE MAIL SYSTEM.

which it is expected will eventually extend throughout the limits of the Greater New York. It is known as the Batcheller pneumatic dispatch tube system, and was installed by the Tubular

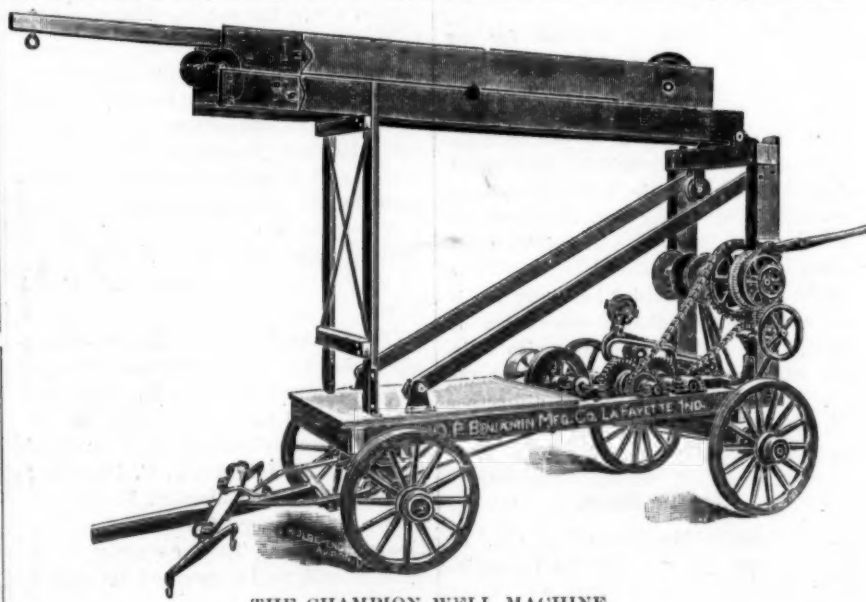
tween the postoffice and the Produce Exchange, and which was successfully tested and set in operation October 7, the tubes are of bored cast iron, twelve feet in length. They have bells cast



CARRIER FOR PNEUMATIC TUBE MAIL SYSTEM.

Dispatch Co., of New York, under the supervision of B. C. Batcheller, of Philadelphia, Pa., from whom the system takes its name. The actual construction is in charge of Chas. A. Budd, assistant engineer, also of Philadelphia.

upon one end in order to join the sections with lead and oakum calked in the usual manner of making joints in water and gas pipes, except that at the bottom of the bell a counter bore is turned to receive the finished end of the next sec-



THE CHAMPION WELL MACHINE.

New York city. The compressor does not differ materially from air compressors of the Rand type built for other purposes. The stroke is twenty inches, the diameter of the steam cylinders ten inches and the air cylinders twenty-four inches. Compressed air at a pressure of six or eight pounds is stored in a tank, from which it flows to the sending apparatus, and which is situated on the floor above the compressor. From here the

ingenuity has been used to provide that which is both simple and effective.

The Champion well machine, which we present, is built by the O. P. Benjamin Manufacturing Co., of Lafayette, Ind.

The Champion machine is equipped with the maker's patent friction clutch; the brake enables the operator to lower the tools into the well easily; the new worm and ratchet feed is an improvement for very deep work, and the new



hoist for sand line is so arranged that any desired speed can be obtained up to 500 feet per minute.

This machine is built in two sizes, one for drilling 1000 feet and one for drilling 3000 feet, and further details and prices will be readily supplied by the maker.

#### Panel-Raising Machine.

The manifold requirements of a wood-working factory in these days makes it

This machine will raise panels on one or both sides on stock that is cross-grained, knotty, soft or hard. The cutterheads are made in such a manner as to provide smooth work, and the bits will keep their edge for a long time. Panels as small as one inch can be raised on one or both sides at one time.

A further description of this machine, giving the methods of its construction, prices and other information, can be re-

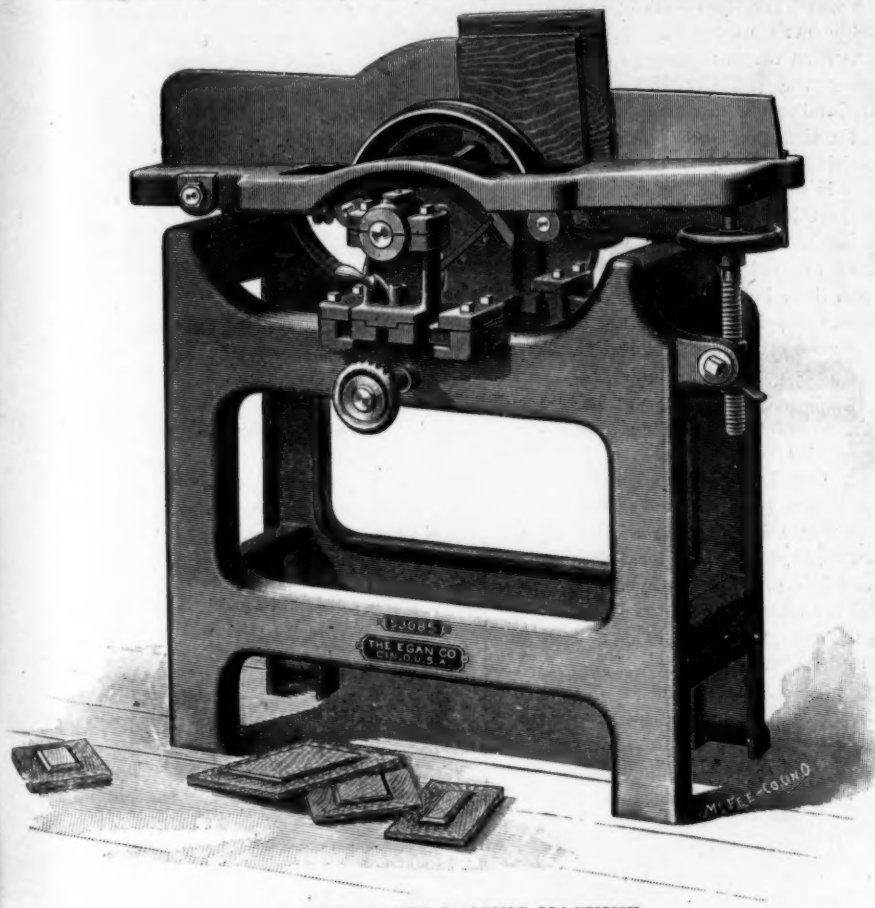
steel, and runs in boxes of hard bronze. The feed arrangement enables the operator to drive feed with either belt or gearing by simply slipping small gears into gear on the feed rod, and the entire length of the carriage has solid bearings on V's, and the carriage is gibbed its full length to outside of bed; all studs and small gears are made of steel.

This lathe is furnished with compound rest, back gear, power cross-feed, screw-cutting apparatus to cut threads from one to sixteen, including eleven and one-half; also centre rest, follow rest, large

engine, boiler and the necessary driving connections, including an arrangement for propelling the whole by power.

The buckets of the elevator are provided with truck wheels, which travel on suitable guides in the angle-iron ladder frame, thus reducing the friction as well as the wear to a minimum.

The elevator is pivoted at the top, and is raised and lowered by hoisting-drum equipment, giving it a vertical adjustment, which, together with the radial adjustment, makes it possible to reach a large area of sand without moving the machine.



NEW PANEL-RAISING MACHINE.

necessary for operators of such establishments to be alert in interesting themselves in new machines introduced for their purposes.

A new machine now being introduced by the well-known manufacturer of woodworking machinery, the Egan Com-

ceived from the maker if addressed as above.

#### Engine Lathe.

In machine shops and other industrial establishments finding use for engine lathes, a lathe that is convenient for

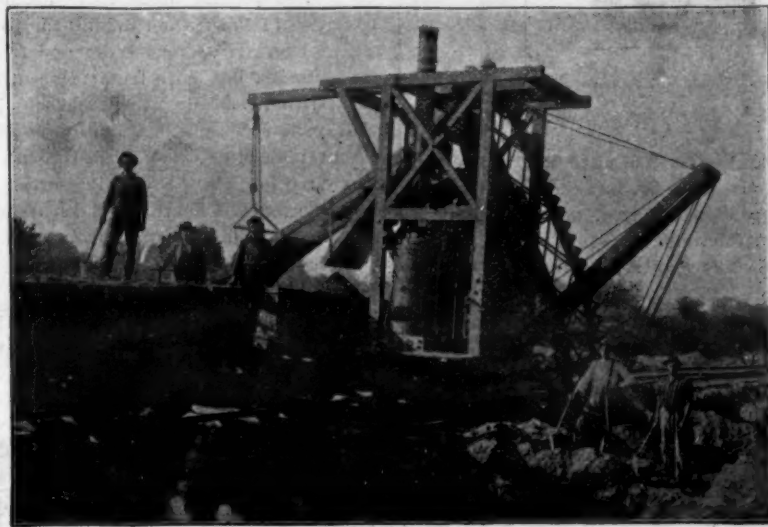
and small faceplates, countershaft and wrenches complete. The countershaft has patented friction pulleys eighteen inches in diameter, for four-inch belt. These lathes are operated and carefully tested before they leave the factory, and their accuracy and the quality of their workmanship is attested by the renown of the maker, the Bradford Mill Co., of 657 Evans street, Cincinnati, Ohio.

#### Sand Elevator and Screen.

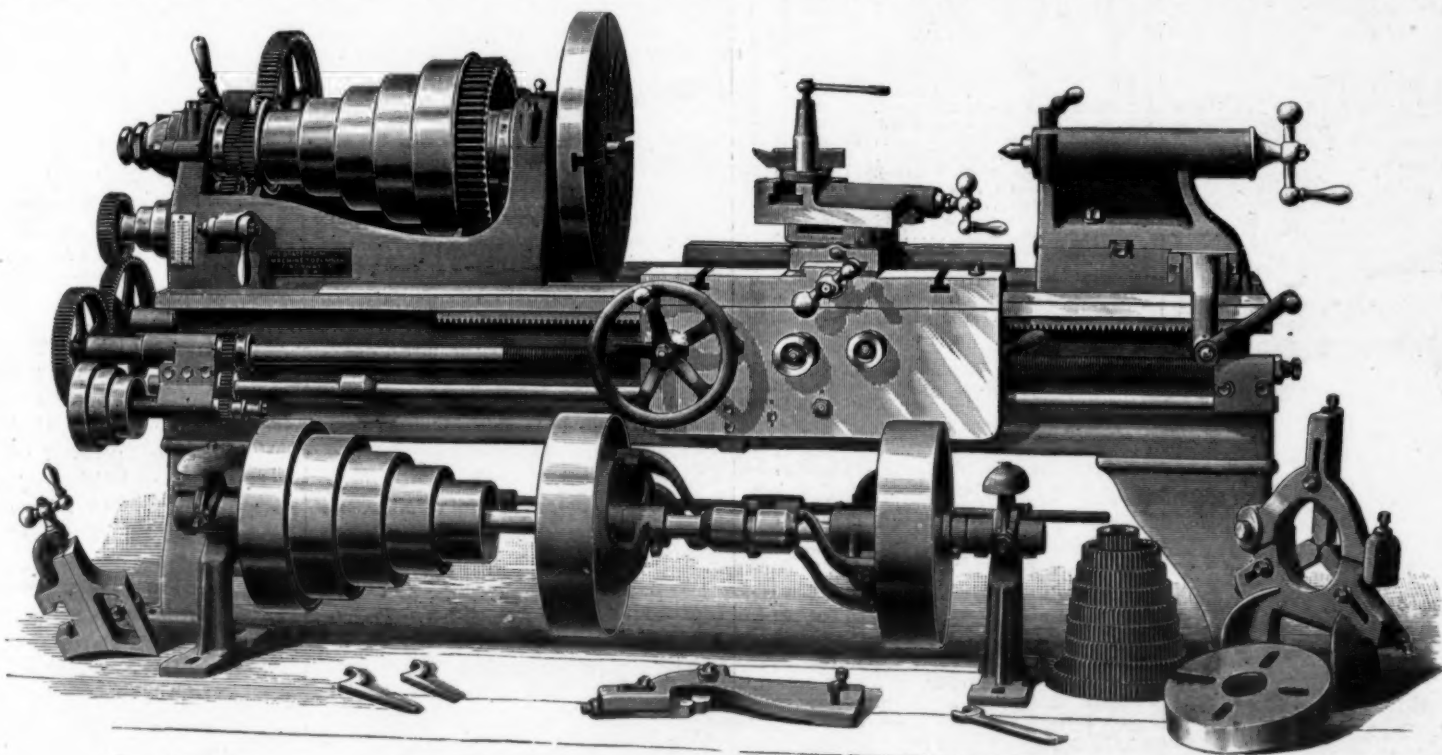
The plant of Messrs. Shoemaker & Co. at Franklin Station, Ohio, is now using

Altogether this machine is of the latest and most improved pattern in all its parts, and is readily operated by two men. It is practically automatic, requiring but little hand labor, except when cleaning up. Its capacity is from ten to fifteen cars per day at the plant of the Messrs. Shoemaker, while with little additional expense the capacity can be doubled.

This machinery is of the Jeffrey design throughout, and interested parties can obtain further details by addressing the manufacturer, the Jeffrey Manufacturing Co., of Columbus, Ohio.



SAND ELEVATOR AND SCREEN.



25-INCH ENGINE LATHE.

pany, of Cincinnati, Ohio, is the panel-raiser presented on this page.

This is a double-head panel-raiser, and is made to meet the demand for a machine in which the fence remains in the same relation to the cutterhead for all sizes of panels raised.

handling either light or heavy work should have a place.

In the 25-inch engine lathe which we illustrate is shown a very heavy, powerful, substantial and convenient machine. Its working parts are of ample size. The spindle is high-grade, of hard, hammered

a portable sand elevator and screen, which is designed for digging and screening sand direct into the cars from the bank. The machinery of this device is mounted on the upper platform of the frame, and consists of an elevator of the continuous Jeffrey bucket type, screen,

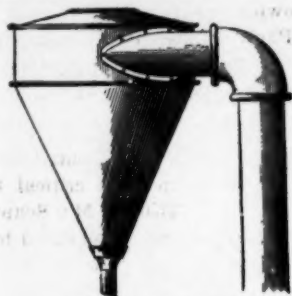
#### Exhaust Head.

An original design of an exhaust head is being introduced to users of this class of apparatus.

This design is known as the Common Sense exhaust head. It contains one

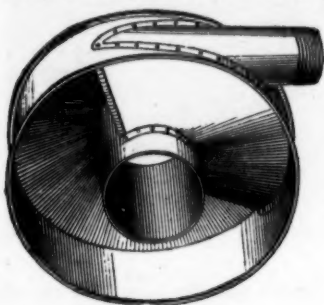


chamber, and that is the entire head, the steam coming in at the top, the lines afford a liberal cubical capacity, the steam inlet is connected horizontally with the head, and the force of the steam coming into the chamber at a tangent gives it a lateral rotary motion which sweeps around and around the wall of



EXTERIOR VIEW.

the chamber, bringing the particles of water, grease and oil with which the steam is charged into contact with a large condensing area, upon which they collect, then run, by gravity, to the drip below. The spiral deflecting plate is so placed as to offer no obstruction, its object being to direct the steam downward,



INTERIOR VIEW.

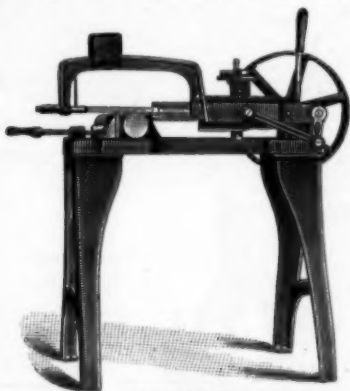
so that in the second and succeeding revolutions there can be no confusion with the incoming steam.

A further and complete description of this exhaust head, with prices and other information can be obtained by addressing the manufacturers, Messrs. Bingham & Co., of 230 Cherry street, Philadelphia, Pa.

#### Shop Saw.

Many years of experience in the manufacture of metal-sawing machines has led the maker of the Q & C shop saw to believe that there is a demand for a cheap shop saw, such as we illustrate.

This saw is of small capacity, and will cut steel as readily as other metals, being designed especially for the purposes for which the maker advises its use.



SHOP SAW.

This saw has automatic variable feed, which can be instantly changed without stopping the machine, and it is supplied with improved gravity feed for extremely hard metals of small size.

For further information and prices address the maker, the Q & C Company, of 700 Western Union Building, Chicago, Illinois.

Lorin A. Thurston, who has represented the dominant element of Hawaii, has issued a "Handbook on the Annexation of Hawaii."

## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

### LUMBER MARKET REVIEWS.

#### Baltimore.

Office Manufacturers' Record,  
Baltimore, Md., November 4.

With the advent of clear weather the movement in many departments of the local lumber trade is showing a better volume of business. The demand for air-dried North Carolina pine is somewhat better, and planing mills and yardmen have been in the market during the past week. There is also some demand from box factories, but sales from this source are limited in character. Stocks of air-dried yellow pine are fully ample for present necessities, and with the usual weekly receipts there is a full assortment of most grades. There has been a fair trade in kiln-dried North Carolina pine, and sales for the week have been larger than usual. In white pine the inquiry is much improved and the list of values generally higher, while the demand for prompt and future delivery is good. Cypress is steady, with values unchanged. Hardwood men consider the outlook for local trade much more favorable than for some time past, and there is at present a fair local, as well as out-of-town, demand. A number of contracts for prompt and future delivery have been filed during the past week, and values are generally well maintained. Of the export trade very little that is at all encouraging can be stated at the moment, as stocks of oak and poplar in the European markets are generally excessive, with prices weak. During the month of October the foreign exports of wood products from this port are reported as follows: Lumber, 2,336,000 feet; logs of wood, 2072, and staves, 119,000.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

VIRGINIA AND NORTH CAROLINA PINE			
5-4x10 No. 2, kiln dried.....	\$12 50@	13 50	
5-4x12 No. 2, kiln dried.....	14 00@	15 00	
4-4x10 No. 1, kiln dried.....	15 00@	15 50	
4-4x12 No. 1, kiln dried.....	15 00@	16 00	
4-4 nar. edge, No. 1, kiln dried.....	12 50@	14 00	
4-4 wide edge, No. 1, kiln d'd.....	17 50@	18 50	
6-4x10 & 12, No. 1, kiln dried.....	23 00@	24 00	
4-4 No. 1 edge floor, air dried.....	12 50@	13 50	
4-4 No. 2 edge floor, air dried.....	10 00@	11 00	
4-4 No. 1 12-in. stock, air dried.....	15 00@	16 00	
4-4 No. 2 12-inch stock.....	12 50@	13 50	
4-4 edge box or rough wide.....	8 00@	8 50	
4-4 edge box do. (ord. widths).....	7 00@	7 50	
4-4 12-inch rough.....	9 00@	9 50	
3/4 narrow edge.....	5 50@	6 50	
3/4 wide.....	6 50@	7 50	
3/4x9 1/2 and 10 1/2-inch.....	7 50@	8 50	
Small joists, 2 1/2-12, 14 and 16 long.....	7 50@	8 50	
Large joists, 3-16 long and up.....	8 00@	9 00	
Scantling, 2x3, 2x4 and 3x4.....	7 00@	8 00	

#### WHITE PINE.

1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.....	\$47 00@	48 00
3d clear, 4-4, 5-4, 6-4 and 8-4.....	42 00@	43 00
Good edge culls.....	14 50@	15 50
Good stock.....	16 50@	17 50

#### CYPRESS.

4-4x6, No. 1.....	\$19 50@	20 50
4-4x6, No. 2.....	13 50@	14 50
4-4x6, 16 feet, fencing.....	10 00@	11 00
4-4x6, rough.....	8 00@	9 00
4-4 rough edge.....	16 00@	17 00
4-4 edge, No. 1.....	12 00@	13 00
4-4 edge, No. 2.....	25 00@	26 50
Gulf, 4-4, Nos. 1 and 2.....	28 00@	30 00

#### HARDWOODS—WALNUT.

5-8, Nos. 1 and 2.....	\$85 00@	76 00
4-4, Nos. 1 and 2.....	80 00@	90 00
5-4, 6-4 and 8-4.....	85 00@	95 00
Newell stuff, clear of heart.....	85 00@	100 00
Culls.....	20 00@	30 00

#### OAK.

Cabinet, white and red, Southern, plain-sawn and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	\$30 00@	34 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00@	55 00
Culls.....	10 00@	15 00

#### POPLAR.

Nos. 1 and 2, 5-8.....	\$24 50@	25 50
Nos. 1 and 2, 4-4.....	28 00@	30 00
Nos. 1 and 2, 6 and 8-4.....	32 50@	33 50
Culls.....	11 50@	12 50

#### SHINGLES.

Cypr., No 1 h'rts, sawed, 6x20.....	\$6 25@	7 00
No. 1 saps, sawed, 6x20.....	4 75@	5 00
No. 1 hearts, shaved, 6x20.....	6 00@	7 00
No. 1 saps, shaved, 6x20.....	4 75@	

#### LATHS.

White pine.....	\$1 90@	2 10
Spruce.....	2 10@	2 15
Cypress.....	1 55@	1 65

#### Norfolk.

[From our own Correspondent.]  
Norfolk, Va., October 30.

The weather here has been very unfavorable, and adverse winds and a scarcity of vessels have restricted lumber shipments during the past fortnight. The general trade of this port is active, and the exports for the month of October are much larger than for the same month last year, when they amounted to \$1,618,020. Among the primary industries of this port, lumber is showing greater activity, and the situation is now regarded as very promising both by manufacturers and others in the trade. The demand is good, and there is every prospect of a material increase of business during November. Stocks are not by any means well assorted, there being a scarcity of desirable grades, and prices are now very firm, with every prospect of an advance during the next thirty days. The mills are all running at their full capacity and have a fair supply of orders. There is a good foreign demand for certain grades of kiln-dried North Carolina pine, and a very large trade is now being worked up by some of the leading mills with Great Britain and continental ports. The local demand for lumber is improving, and when it is noted that over \$2,000,000 has been spent during the year for cotton warehouses and storage facilities in Norfolk and Portsmouth, besides thousands of dollars for private residences, a large quantity of lumber and other building material has, therefore, gone into consumption. Vessels here for lumber cargoes are very scarce, and rates are \$2.15 to \$2.20 to New York and vicinity and \$2.75 to \$3 to Boston. The schooner Norman was chartered last week in New York to load here with lumber for Boston at \$3.

#### Savannah.

[From our own Correspondent.]  
Savannah, Ga., October 30.

The month closes here with considerable snap and vigor in the lumber trade, and, in fact, throughout the various commercial channels of the port shipments are showing a wonderful degree of activity. During the month of October the demand here for all desirable grades of lumber has increased, and in the crosstie industry an unusual trade has been developed. At nearby ports in Georgia and at interior milling sections favorable reports are current regarding the trade in all wood products. Mills are generally working at their full capacity, being generally well supplied with orders for prompt and future delivery. The market closed on Saturday with prices firm, as follows: Ordinary sizes, \$10.50 to \$11; difficult sizes, \$12 to \$14; flooring boards, \$15 to \$17; shipstuff, \$14.50 to \$18, and sawn ties, \$9.50. The total shipments of lumber and other wood products for the past week amounted to 4,356,039 feet, distributed as follows: New York, 1,114,808 feet of lumber, 33,893 crossties, measuring 1,349,124 feet, and 100,000 shingles; Philadelphia, 1,296,211 feet of lumber; Boston, 109,542 feet; Baltimore, 436,354 feet. Freight on lumber are firm, with rates unchanged. The rates from this and nearby ports of Georgia are quoted at \$4 to \$4.50 for a range including Baltimore and Portland, Maine.

#### Charleston.

[From our own Correspondent.]  
Charleston, S. C., October 30.

Notwithstanding the inclemency of the weather during the past week there has been a fair volume of business recorded in most departments of the lumber industry of the port. The demand seems to be improving, and from both domestic and foreign ports there is a good inquiry.

Prices for all desirable material are firm and show an advancing tendency, while the various saw mills, both here and at nearby milling points, have all they can do to fill their orders now on file. On Saturday last the market closed steady, with prices as follows: Merchantable lumber, \$14 to \$16 for city-sawn, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad; \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. There is a good demand for shingles at \$5 to \$7 per thousand. Among the vessels cleared during this week were the following: Schooner Sir Hibbert by James T. Molony, manager, for Port Antonio with 250,000 feet of lumber; for New York, schooner Pasadena with 59,468 feet of lumber; schooner Anna with 316,362 feet, and by Clyde steamers 32,960 feet. The schooner Mary H. Brockaway cleared for Boston with 310,000 feet of lumber, and steamer Pawnee with 49,700 feet and other cargo. The total shipments of lumber from this port since September 1 amount to 5,511,890 feet coastwise and 250,000 feet foreign, against 9,194,314 feet coastwise and 150,000 feet foreign last year. Coastwise freights are steady, with rates unchanged at \$4.38 to \$4.50 to New York; wet ties to Perth Amboy, 15 cents each, basis forty-six feet, and dry ties to New York, 11 1/2 cents, basis thirty-six feet.

#### Jacksonville.

[From our own Correspondent.]  
Jacksonville, Fla., October 30.

The month of October has shown a fairly active trade in nearly every avenue of the lumber trade, and the demand has been steady, with prices firm and advancing. The various saw mills in this section have a good supply of orders, and in no case are stocks of lumber excessive. On the other hand, the assortment is somewhat broken, with a scarcity of certain grades. The lumber shipments during the month were as follows: 8,332,789 feet of yellow-pine lumber, 1,212,000 feet of cypress lumber, 3,307,750 shingles and 42,280 crossties. The outlook for the month of November is very promising, and there are a number of vessels chartered to load here at an early date. The following charters were reported in New York last week: Schooner R. T. Rundlett, 258 tons, from Jacksonville to New York with dry cypress and shingles at \$4.75; a schooner, 330 tons, from Jacksonville to St. Pierre and Fort de France with lumber at \$6.50, and schooner Florence and Lillian, 212 tons, from Jacksonville to Philadelphia with dry cypress at \$4.37 1/2.

#### Lumber Notes.

Among the foreign exports from the port of Baltimore during the month of October were 2,336,000 feet of lumber, 2072 logs of wood and 119,000 staves.

The foreign exports of wood products from the port of Baltimore for the month of October were as follows: Lumber, 2,336,000 feet; 2072 logs of wood, and 119,000 staves.

The schooner Lois V. Chaples cleared last week from Wilmington with a mixed cargo for Port de Paix, Hayti, cargo consisting of 179,221 feet of lumber and other building material.

The four-masted schooner William B. Palmer cleared from Brunswick, Ga., last week with the second largest cargo of crossties ever put on a vessel. The number of crossties on board amounted to 32,000.

The Mutual Lumber Co., of Meridian, Miss., claims to have the largest timber planer in the South. It weighs 26,000 pounds, and will dress a stick 20x30 inches four sides at one operation. Its



capacity is 10,000 feet of timber per hour.

The Southern Cypress Lumber Association, at a meeting in New Orleans on the 15th ult., issued a new price-list. Select and shop have been advanced \$1 a thousand, and the molding discount is now 72½ per cent. instead of 75 per cent.

It is stated that the big cypress mills at Harney, Fla., have been sold to capitalists from Buffalo, N. Y. They get with the mill 3,000,000 feet of cypress timber. The entire plant, which is one of the largest in that section, will soon be in full operation.

The seven big lumber mills at Lake Charles, La., were compelled to close down on the 23d ult., owing to the difference that has arisen between the citizens of Calcasieu parish and the Southern Pacific Railroad relative to quarantine regulations.

The D. R. Wingate Lumber Co.'s mill at Orange, Texas, resumed operations on the 25th ult., after being thoroughly overhauled. The Orange Lumber Co.'s mill also resumed operations on the same date, both mills having added a number of improvements and placed in first-class order.

The hardwood mills at and near Kansas City, Mo., report an increasing demand, with a marked improvement in sales and prices. Common oak is \$1 higher than it was a few months ago, while clear stock is several dollars higher. Clear stock of all kinds is in good demand, and dry oak better than common is scarce at all the mills.

Secretary Dormeyer, of the New Orleans Mechanics, Dealers and Lumbermen's Exchange, reports the receipts of wood products for the week ending October 25 as follows: Lumber, 1,023,000 feet, and for the season 8,244,000 feet, against 7,686,000 feet last year. Receipts of shingles for week, 212,000; laths, 110,000; oak staves, 65,200, and cypress staves, 66,000.

It is stated that E. V. Babcock, of E. V. Babcock & Co., together with other Pittsburg capitalists, have purchased 6800 acres of timber land in Somerset county, fifteen miles south of Johnstown, Pa. The timber includes about 120,000,000 feet of hemlock and 30,000,000 feet of maple, birch, beech, cherry and other hardwoods. A stock company will be formed at once by the purchasers, to be known as the Babcock Lumber Co., and active operations commenced at once.

It is stated that the shipments of lumber from the port of Brunswick for the month of October will exceed 15,000,000 feet, a record never before reached. Arthur Gregertsen, local manager for J. E. Broadhead, the crosstie shipper, exported during the month of October 105,200 ties. The following schooners cleared from Brunswick last week with wood products: Francis C. Yarnell for Portland with 407,000 feet of lumber, the Joel F. Sheperd with 445,000 feet and the Thelma with 452,000 feet, both for Boston.

### Iron Markets.

Cincinnati, O., October 30.

The past week has been without any marked features in the iron trade. Consumption is going on at a healthy rate, and stocks of iron at furnaces are decreasing and would run down still faster were it possible to get cars. Some of the Southern furnaces are thousands of tons behind their orders, because of scarcity of certain grades and the car famine. In view of the heavy buying movement during September and early October it would not be surprising if a period of quiet should extend through November.

The conditions of the market are normal, and the warrants offered are gradu-

ally being absorbed and the iron is taken from the warrant yards for shipment to consumers. Several thousand tons have been purchased from speculators during the past week.

The largest furnace company in the South has decreased its stock since October 1 at the rate of 1000 tons per day, besides shipping its current output. It is stated that during the past few days the stocks in the warrant yards at Birmingham have fallen off 6000 tons. These facts seem to justify the belief that the present rate of consumption will demand more iron than is now being produced in the South.

We quote cash f. o. b. cars Cincinnati:

Southern coke No. 1 foundry...	\$10 00
Southern coke No. 2 foundry...	9 75
Southern coke No. 3 foundry...	9 45
Southern coke, gray forge...	9 25
Southern coke, mottled...	9 00
Southern coke No. 1 soft...	10 00
Southern coke No. 2 soft...	9 75
Belfont coke No. 1, Lake Sup.	11 00
Belfont coke No. 2, Lake Sup.	10 50
Hanging Rock charcoal No. 1	14 50
Tennessee charcoal No. 1...	12 50
Jackson Co. silvery No. 1...	12 50
Standard Georgia car-wheel...	14 25

New York, October 30.

There is no disguising the fact that orders have been fewer the last week than for some time past, although consumers are taking liberally on orders that they placed earlier. One customer said that he was unable to get enough first-class molders and that they never were busier. On the other hand, some of the trade report only an ordinary business, but on the whole consumption keeps up well and there is no change of feeling as to the future, which is full of promise.

The drought in the Connellsville district has given an impetus to the coke business of the Virginias, where they have as yet sufficient water. The supply of East Pennsylvania coke is giving a great deal of anxiety because of so many of the ovens being necessarily cold. In the event the drought should continue and the manufacture of pig iron be curtailed, the ready stocks of pig iron, which are not excessive, would enhance in value very rapidly, and the speculative lots would find in the important consuming districts about Pittsburg and the Mahoning and Shenango valleys a ready sale at remunerative figures. Prices continue the same as last week. There is a pressure to sell warrant iron, which is being offered under the prices of furnace iron. It weakens the tone of the general market where the warrants are offered, but consumers realize that in buying warrants the transaction is spot cash, and they will not pay as much as for furnace iron through the usual channels, so that the trade in general is becoming more familiar with the difference between the purchase of warrant iron and the regular furnace supplies at stated periods of delivery desired by the consumers.

We quote for cash f. o. b. New York:

No. 1 X standard Alabama...	\$11 00
No. 2 X standard Alabama...	10 50
No. 1 X lake ore coke iron...	12 50
No. 2 X lake ore coke iron...	12 00
Niagara coke malleable...	12 00
Standard Georgia charcoal...	15 50

Philadelphia, Pa., October 30.

The shipments of all kinds of pig iron are heavy, and some purchases have been made by buyers who are considered shrewd and far-sighted for good, round lots. One large buyer has bought 5000 tons for delivery next year, and would double or treble his purchase if furnaces would scatter the shipments far enough along.

We quote for cash f. o. b. Philadelphia:

No. 1 X standard Alabama...	\$11 50
No. 2 X standard Alabama...	11 00
No. 1 X lake ore coke iron...	12 50
No. 2 X lake ore coke iron...	12 50
Niagara coke, malleable...	12 50
Standard Georgia C. C...	15 75

ROGERS, BROWN & CO.

The date of the waterways convention at Houston, Texas, has been changed to December 6.

## PHOSPHATES.

### Phosphate Markets.

Office Manufacturers' Record,  
Baltimore, Md., November 4.

The local phosphate market is quiet and without special feature, in sympathy with the tone for other fertilizer ingredients. Manufacturers are only buying to supply present wants, and are not adding largely to their present supplies. The tone of the market at points of production is unchanged, and the movement in South Carolina is light and principally confined to the coastwise trade. In Florida shipments for October were moderate, and for the present month the shipments of rock from the ports will be about an average. The movement in Tennessee is active, and there is a prospect of considerable business during November and December. The only charter reported in the local market during the week is the schooner Macomber, taken to load phosphate rock at Port Tampa for Baltimore.

### Fertilizer Ingredients.

The demand for most descriptions of material is light and the general market quiet. Buyers are only purchasing to satisfy present wants and prices are about steady. Messrs. Thomas H. White & Co., in their circular for October, say: "The decline in cotton, to which we referred in our last circular as affecting the price of ammoniates, has continued throughout the past month, and buyers in consequence withdrew entirely from the market. Holders of the many contracts of 9 and 20 tannage, always offered at this season of the year, have gradually reduced their pretensions, and we think now that business is possible at the lower level of quotations. Blood is still held by producers at extreme figures, but offerings of second-hand lots are available at less money." It is stated that contracts for high-grade crushed tannage were closed in Chicago this week for six and twelve months, averaging 1000 tons monthly, at \$14 to \$15. Values for nitrate of soda are easy for both spot and future deliveries.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)	\$2 20
Nitrate of soda	1 75
Blood	2 50
Hoof meal	1 90
Azotine (beef)	1 90
Azotine (pork)	1 90
Tannage (concentrated)	1 70
Tannage (9 and 20)	16 00
Tannage (7 and 30)	16 00
Fish (dry)	19 00
Fish (acid)	12 00

### Phosphate and Fertilizer Notes.

The steamship Sheerness cleared from Savannah last week with 1910 tons of phosphate rock among her cargo for Legan, and the steamship Feronia for Hamburg with 1908 tons.

The following shipments of phosphate rock from the port of Charleston, S. C., were reported last week: Schooner T. W. Dunn for Weymouth, Mass., with 970 tons; schooners Mary Curtis, 550 tons, and Fannie Brown, 760 tons, for Richmond, Va.; schooners Samuel W. Tilton, 1500 tons, and Fannie Reiche, 650 tons, for Baltimore, and schooner Susie H. Davidson for Elizabethport, N. J., with 840 tons. The total coastwise shipments of phosphate rock since September 1 amount to 11,931 tons, against 15,391 tons for the corresponding period last year.

The following shipments of phosphate rock are reported from the port of Fernandina, Fla., for the month of October: Steamship Delaware for Hamburg with 2736 tons by A. Newman; steamship Whitfield for same port with 2922 tons, and steamship Eveline for Rotterdam

with 3800 tons by H. A. Ford, making a total for the month of 9458 tons. The total shipments to November 1 amount to 155,477 tons, and the estimate of 30,000 tons for November and December will place the figures for the year 1897 at 185,477 tons. The estimated shipments for November is 13,000 tons, and the following charters have been made: J. H. Packard, steamship Atlantic; A. Newman, steamships Raunmoor and Drot, and Dunnellon Phosphate Co., steamship Coquette.

The Hon. Carl Schurz contributes to the November Harper's a critical biography of Daniel Webster. Mr. Schurz is the first writer to grapple on equal terms with the problems presented by the life of this most complex of great American statesmen of the past generation, and the judgment he renders will in all likelihood become the final judgment of posterity.

### TRADE NOTES.

The San Francisco & San Joaquin Valley Railway of California has ordered 100 30-ton box cars of the Ensign Manufacturing Co., of Huntington, W. Va.

Hartford Belting.—The Jewell Belting Co., of Hartford, Conn., has changed the name of its "Diamond" brand of belting to "Hartford." The quality of leather, workmanship and finish is exactly the same in every way.

London Office.—The Kelly & Jones Co., of Greensburg, Pa., manufacturer of iron blow-off valves, has opened an office in London, England, at 29 New Bridge street, E. C., with Mr. Joseph O. Kelly acting as representative.

A Large Generator.—The Stanley Electric Manufacturing Co. is working on one of the largest generators ever made in its Pittsfield, Mass., shops. It is 750 horsepower and will weigh 160,000 pounds. The entire plant of this company is running extra time with many orders.

Electrical Machinery Contract.—The Charleston (S. C.) City Railway has contracted recently with the General Electric Co. for a 600-horse-power cross-compound direct-connection engine (vertical) and a 500-kilowatt dynamo. This machinery is to act as a relay for equipment now in position.

Timber Lands Agent, etc.—Mineral, farming and timber lands of all kinds are dealt in by Mr. E. Willis, of Charleston, S. C. A recent sale made by Major Willis was that of Long Island, near Charleston. This property is nine miles long, with fine beach, and is heavily timbered with palmetto and magnolia.

Pittsburg Feed-water Heaters.—Pittsburg feed-water heaters and purifiers have been placed during the month of October in prominent industrial plants in Ohio, Michigan and Pennsylvania by the general sales agents, Messrs. James Bonar & Co., Pittsburg, Pa. The firm also reports that Bonar gauge cocks are having a large sale.

Investment Securities.—Messrs. Sperry, Jones & Co., of Baltimore, Md., dealers in investment securities, have removed their offices to the Equitable Building, corner Fayette and Calvert streets (from 239 East German street). The firm occupies rooms Nos. 410, 412 and 414, and have better accommodations for their customers than obtained at the old address.

Cotton Machinery Works Consolidated.—The Pettie Machine Works, of Newton Upper Falls, Mass., and the Saco Water-Power Machine Shop, of Biddeford, Maine, will consolidate and form the Saco & Pettie Machine Shops, with main office at Newton Upper Falls, Mass. Both plants will be operated, each building machinery for which it is best adapted. The new company will be able to furnish, practically, a complete equipment of machinery for a cotton mill, and will hold a very strong position in the trade, as these two shops heretofore have made a specialty of their respective products and enjoyed a high reputation for excellence and efficiency of same. Mr. James H. McMullan will be president of the new company, and the management will be in charge of the present managers of the Pettie Machine Works, Mr. R. P. Snelling, treasurer, and Mr. F. J. Hale, agent.



# CONSTRUCTION DEPARTMENT.

**THE MANUFACTURERS' RECORD** seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted." In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

## ALABAMA.

Birmingham—Cotton Mill and Bleachery.—The Commercial Club is negotiating with a view to the location of a large cotton mill and bleachery.

Bridgeport—Woodworking Factory.—The Hardwood Manufacturing Co., of Piedmont, Ala., N. A. Alexander, proprietor, will establish the woodworking factory lately noted. New buildings are being erected, and the machinery at Piedmont will be moved to Bridgeport. Capacity of factory at start will be 100 sets of rims daily, and ten men will be employed.

Fort Payne—Kaolin Mines, etc.—The Eastern capitalists who bought the kaolin mines near Fort Payne several months ago have expended \$12,000 in the purchase of new machinery, and same is now being installed. Probably 200 men will be employed. J. W. Thomas, Fort Payne, has been employed to superintend the plant. J. W. Dickinson, 53 State street, Boston, Mass., is interested.

Rock Mills—Cotton Mill.—The Wehadkee Cotton Mills, now operating 3000 spindles and seventy-five looms, will put in 500 new spindles.

Scottsville—Coal Mines.—Gen. Charles M. Shelley, of Birmingham, Ala., has leased coal lands in Bibb county and will develop same.

## ARKANSAS.

Little Rock—Brick Works.—Chartered: The Arkansas Brick & Manufacturing Co.; incorporators: E. N. Weigel, Mary V. Weigel, W. W. Dickinson, Fanny R. Dickinson and J. W. Dickinson, Jr. The capital stock is \$50,000, of which one-half has been subscribed. Address E. N. Weigel.

Pine Bluff—Printing Company.—Incorporated: The Adams-Wilson Printing Co., by Thomas J. Wilson, James W. Adams and George H. Adams; capital stock \$4000. Address Thomas J. Wilson.

## FLORIDA.

Branford—Saw Mill.—McQueen & Robison will rebuild their burned saw mill.\*

Jacksonville—Mercantile.—Incorporated: The Standard Clothing Co., with a capital

of \$10,000, to deal in merchandise, wholesale and retail. C. Benedict is president; M. Pollak, treasurer, and D. Greenberg, secretary.

Jacksonville—Contractors, etc.—Incorporated: The S. S. Leonard Co., contractors and builders, has been organized with S. S. Leonard president and J. S. Leonard vice-president; W. J. Colter, secretary and treasurer; J. S. Smith, Jr., and E. F. DeCottes are directors.

Meadow—Sugar Mills, Cane Cultivation, etc.—The Meadow Land & Improvement Co. is proceeding with the drainage of its property near Meadow, dredges being at work under the direction of Capt. J. W. Paine. It is said that Christian Ax, of Baltimore, Md., and other capitalists are interested in this project. Extensive sugar mills are contemplated in connection with the work. Address J. H. Burchell, representative Meadow Land & Improvement Co.

Tampa—Ice Factory.—The Florida Brewing Co. will rebuild its ice factory, which was burned recently.

## GEORGIA.

Augusta—Meal Mill.—L. J. Miller has leased the Georgia Railroad elevator building, and will put in equipment of machinery for producing grits and meal; capacity to be 3000 bushels daily.

Belair—Barrel Factory.—The Georgia Railroad, Land & Colonization Co. will establish a barrel-hoop factory. Address W. C. Boykin, land agent, Dyer Building, Atlanta, Ga.\*

Butler—Clay Mining.—The Peerless Clay Co. has been organized by J. C. Lamb, W. B. Wilson, O. M. Colbert and T. C. Butler, of Asheville, N. C., capital stock being \$18,000. Company will mine a clay to be utilized in paper manufacturing. Address J. C. Lamb, Peerless Mining Co.

Butler—Mining, Manufacturing, etc.—The Tisdale Mining & Manufacturing Co. has been organized, with capital stock of \$33,500, to mine white clay used in paper manufacturing, to manufacture floated clay, fuller's earth, etc., by W. H. Tisdale, J. W. Black, B. W. Walker, J. C. Lamb, of Montgomery, Ala. Address J. C. Lamb, Tisdale Mining & Manufacturing Co., Butler.

Cordele—Saw Mill.—S. J. Hill and L. C. Averett have bought timber lands near Cordele and will erect a saw mill on the site.

Cordele—Saw Mill, etc.—The Cordele Buck Co. (S. J. Hill & Bro.) has recently improved its buck factory, and intends putting in a saw mill of 30,000 feet capacity soon; dry-kilns are also contemplated.

Fitzgerald—Box Factory.—Taylor & Keller, of Tallapoosa, Ga., will establish a box factory in Fitzgerald. Address the firm, care of American Soldier Colony Co., Fitzgerald.

Griffin—Cotton Mill.—The Griffin Manufacturing Co. may add some looms.

Griffin—Cotton Mill.—The Kincaid Manufacturing Co. will enlarge its mill next year, probably to twice the present equipment; company now has 6410 spindles and 228 looms in position.

Griffin—Cotton Mill.—The Joseph D. Boyd Manufacturing Co., fertilizers, intends putting in machinery for the manufacture of cotton rope and twine. J. W. Mangham, manager, can be addressed.\*

Mineola—Saw Mills, etc.—W. S. Fender and John T. Roberts, of Lowndes county; J. N. Bray, of Berrien county; John R. Young, of Chatham county, and others have incorporated the Mineola Mill Co., for the erection and operation of saw mills, etc. Capital stock is \$20,000. Address W. S. Fender at Mineola.

Poulan—Cotton Mill.—The Aberdeen Mills will put in two sets of cards and spindles to correspond.

Rome—Mining.—R. G. Jackson, C. L. Meshier, L. R. Jackson and A. H. Easterly have incorporated the Jackson-Meshier Mining Co., for mining purposes, with capital stock placed at \$80,000. Address R. G. Jackson.

Savannah—Real Estate.—Chartered: The Savannah Real Estate & Improvement Co., by W. C. Offut, T. B. Irvin, J. Lawton Hires, John F. Freeman, Pope Barrow and John L. Archer. The capital stock is named at \$100,000, with the privilege of increasing to \$500,000.

Tate—Marble Quarries.—The Butler-Ryan

Co., of St. Paul, Minn., has contracted for the development of the Herndon marble quarries, near Tate, in Pickens county. A short-line railroad will be constructed and a complete equipment of modern quarrying machinery installed. Address the Butler-Ryan, Co., contractors, St. Paul, Minn.

Thomaston—Cotton Mill, etc.—H. H. Comer, T. D. Kline, Hugh Comer, of Atlanta; J. F. Hanson, Macon, and others are reported as investigating water-power near Thomaston, with a view to developments and the erection of a cotton mill. Address J. F. Hanson, Macon, Ga.

Toonigh—Cotton Mill.—E. A. Fincher has added rope machinery to his mill, giving capacity of 1000 feet daily.

Warwick—Foundry and Iron Works.—A movement is on foot for the erection of a foundry and iron works. T. F. Warwick can be addressed for information.

## KENTUCKY.

Cadiz—Soap Factory.—George L. Smith contemplates the establishment of a factory for producing toilet soap and kindred articles.\*

Clinton—Water and Light Plant.—The Clinton Water & Light Co. has been incorporated with capital stock of \$15,000.

Corbin—Electric-light Plant.—The city has granted franchise for erection of electric-light plant. Address the mayor for information.

Epperson—Minerals, etc.—The Delwood Mining Co. of Illinois has leased mineral lands, as stated recently, and intends developing the properties it controls. Address care of J. P. Brooks, Epperson, Ky.

Frankfort—Coal Mines.—R. K. McClure, L. P. Tarlton, A. W. Overton and John Meagher have incorporated the Morgan County Cannel Coal Co., for the purpose of opening mines; capital stock is \$25,000. Address R. K. McClure.

Louisville—Electric-light Plant, etc.—W. H. Hills, assistant superintendent treasury department, has ordered bids asked for skylight to cost about \$8000, and electric-light plant to cost \$25,000 to \$40,000, both for the Louisville custom-house. Address Mr. Baker, postmaster and custodian of courthouse, Louisville, Ky.

Paducah—Cotton Mill.—The Cohankus Manufacturing Co., of Hokokus, N. J., has completed arrangements for the removal of its mill to Paducah. New building will be erected and equipped with machinery of 2,000,000 pounds of batting annual capacity, employing 120 operatives; F. P. Toof, agent, Paducah.

## LOUISIANA.

New Orleans—Excavating, etc.—The Sixth District Sanitary Excavating & Manufacturing Co., Limited, has been incorporated, with capital stock of \$20,000, with William A. Deniger, president, etc.

New Orleans—Cotton Mill.—The Maginnis Cotton Mills may possibly add fifty to 100 looms to its mill; now has 40,752 spindles and 1166 looms in operation.

## MARYLAND.

Baltimore—Cigar Company.—Chartered: The Patten Cigar Co., by Lamartine J. Forbes, Thomas W. Patten, Wm. M. Hedlan, Wm. W. L. Edwards and Francis T. Horner. The capital stock is \$10,000. Address Thomas W. Patten.

Baltimore—Woodworking Factory.—The Maryland Veneer & Basket Co. has been incorporated by William F. Porter, Samuel J. Carr, William T. Kuhns, John Graham and Henley W. Smith, to manufacture baskets, boxes and novelties of wood. The capital stock is \$20,000. Address Mr. Porter.

Baltimore—Cigar Factory.—Incorporated: The El Arte Cigar Manufacturing Co., by Francisco Vidal Cruz, of Tampa, Fla., and Candido F. Menendez, James T. Miller, Stephen J. Van Lill and Walter F. Elmer, of Baltimore. The capital stock is \$25,000. Address Stephen J. Van Lill.

Cumberland.—H. D. Brunn, of Pittsburg, Pa., representing the Maryland, Pennsylvania & West Virginia Telephone & Telegraph Co., is endeavoring to obtain sufficient subscribers in Cumberland to ensure connection with that city and other cities in Maryland, Pennsylvania and West Virginia. Mr. Brunn's definite address is not known, but letters to Pittsburg, Pa., will possibly be delivered.

Washington—Electric-light Plant.—Char-

tered: The H. P. Hill Lighting Co., by H. P. Hill, F. J. Whitehead and A. L. Bogan, with a capital stock of \$10,000, to furnish electric light and power. The principal place of business is to be at Ninth and F streets northwest.

## MISSISSIPPI.

Corinth—Ice Factory.—J. D. Ozler contemplates the establishment of an ice factory.

Rosedale—Cottonseed-oil Mill.—W. B. Roberts, in conjunction with other investors, have about determined to build a cottonseed-oil mill.\*

## MISSOURI.

Carthage—Furniture Factory.—J. D. Clarkson and J. P. Leggett have closed arrangements for the removal of a Lamar (Mo.) furniture factory to Carthage; building 25x50 feet, etc., will be erected. For information address either of the above named, care of the Commercial Club, Carthage.

Kansas City—Fence Company.—A. A. White, O. D. Clark, R. W. Wallace and others have incorporated the Anchor Fence Co., with a capital stock of \$5000.

La Grange—Electric-light Plant.—The city will soon arrange for the erection of the electric-light plant for which \$6000 was voted recently. S. G. Lewis, mayor, can be addressed.

Marcelline—Water Works.—The city will vote on bonds to the amount necessary for its proposed water-works system. Address the mayor.

Sedalia—Ice and Cold-storage Plant.—The W. J. Lemp Brewing Association of St. Louis will erect in Sedalia a cold-storage plant and ice factory, at a cost of \$75,000. Address W. J. Lemp, president of association, at St. Louis.

Slater—Water Works.—The city will arrange at once for the construction of the water works for which bonds to the amount of \$15,000 were voted recently. Artesian wells will be drilled. Plans and specifications for latter are now ready, and further plans for system will be completed next month. R. L. Harvey, mayor, can be addressed.\*

Stanberry—Telephone Company.—Incorporated: The Stanberry Telephone Co., capital stock \$10,000, by L. M. Hale, A. C. Frisber, E. E. Aleshire and others. Address L. M. Hale.

St. Louis—Manufacturing.—John B. Gandolfo and others have incorporated the Gandolfo-Ghlo Manufacturing Co., with capital stock of \$4000.

St. Louis—Construction Company.—Ben W. Sickmeyer and others have incorporated the Columbia Construction Co., with a capital stock of \$25,000.

## NORTH CAROLINA.

Bessemer City—Cotton Mill.—The Bessemer City Cotton Mills has been incorporated, with capital stock of \$25,000, by J. A. Smith, J. A. Pinchback, J. T. Smith, C. A. Thornburg, J. B. Wolfe and F. P. Smith. Address J. A. Smith for information.

Burlington—Knitting Mill.—W. C. Curtis and Jas. Stewart, Jr., have commenced the erection of a knitting mill.

Charlotte—Cotton Mill.—The Ada Manufacturing Co. is increasing its twisting spindles 1536 and erecting addition to accommodate same. This makes an extension of 50x75 feet necessary to the present building.

Elkin—Lumber Mills, etc.—The McDaniel Saw Mill & Manufacturing Co. intends to erect a large saw mill in the Brushy mountain timber district, near Elkin.\*

Fayetteville—Cotton Mill.—The Holt-Morgan Mills has in position 6000 spindles and 250 looms; company intends increasing eventually to capacity 12,000 spindles and 500 looms.

Goldsboro—Furniture, etc.—The Goldsboro Furniture & Crockery Co. has been organized to establish furniture and crockery store, etc. Address care of W. K. Parker.\*

Goldsboro—Cotton Mill.—The Wayne Cotton Mills expects to treble its capacity in the near future, and with that end in view is placing a new engine in position; now has 4000 spindles and 110 looms.

Hamilton—Woodworking Factory.—John P. Boyle, D. C. Jones and T. B. Slade have incorporated the Boyle Manufacturing Co., with authorized capital stock of \$10,000, for



the purpose of manufacturing lumber, shingles, hoops, handles, etc.

Huntersville-Cotton Mill.—The Virgin Cotton Mills contemplate adding 2920 spindles, which would make 5000 in all.

Louisburg-Mercantile.—Incorporated: The Louisburg Hardware & Supply Co., capital stock \$50,000, by Joseph J. Barrow, Walter L. Payne and Jordan S. Barrow.

Lowell-Cotton Mill.—The Spencer Mountain Mills, now operating 5000 spindles, will put in about 2000 additional spindles complete with accessory machinery.

Raleigh-Publishing Company.—D. E. Everett, T. H. Briggs, O. J. Carroll and others have incorporated the North Carolina Publishing Co., with capital stock of \$20,000, to publish a daily newspaper.

Tarboro-Water Works.—The city's contemplated improvements for obtaining better water supply may possibly be definitely decided upon soon. H. A. Gilliam, mayor, can be addressed.

Wadesboro-Silk Mill.—The Wadesboro Silk Mills are putting in machinery to double their capacity.

#### SOUTH CAROLINA.

Charleston-Ice Factory.—Chartered: The Mutual Ice Manufacturing Co., with Wm. A. Wheeler, of Cincinnati, O., president and treasurer, and H. L. Luhn, secretary; capital stock \$100,000. Address the latter, at Charleston.

Columbia-Cotton Mill Specialties Manufacturing.—F. W. Adams, of Pittsfield, Mass., will establish in Columbia a manufactory for the production of his patent dryer felt for cotton mills. The Pittsfield machinery will be removed to the new factory.

Greer Depot-Cotton Mill.—The Brooks Manufacturing Co. will put in equipment for producing cotton batting.

Spartanburg-Ice Factory.—Chartered: The Hygeia Ice & Fuel Co., by George L. Baker, A. J. Hagood, W. S. Reamer and W. W. Hagood, to erect an ice factory. Address W. S. Reamer, Columbia, S. C.

#### TENNESSEE.

Chattanooga-Saw Mill.—F. W. Blair (foot of Moon street) will erect a new and large saw mill to replace one that was burned recently. New mill is to have capacity of 35,000 feet of lumber daily.\*

Chattanooga-Pencil Factory.—The D. M. Steward Manufacturing Co. will double its slate-pencil factory; will erect new building and put in new machinery for manufacturing slate pencils, electric insulators, lava gas tips, etc.

Lebanon-Flour Mill.—The Farmers' Roller Milling Co. will erect a new flour mill.

Loudon-Saw Mill.—W. Ketchum and A. J. Johnson will form a company to erect a saw mill. Address here not definitely known.

Sequachee-Foundry Improvements.—Gustafson Bros. are making improvements to their foundry, adding new machinery, increasing capacity of cupola, etc.

Trenton-Cotton Mill.—The Trenton Cotton Mills will increase about 600 spindles January 1; now has 6000 spindles and 150 looms in operation.

#### TEXAS.

Cleburne.—The new buildings for the general shops of the Gulf, Colorado & Santa Fe Railroad will include one coal bin, 24x450 feet; one 34-pocket coal chute with trestle approaches, 33x111 feet; one 24-stall engine-house with 60-foot turntable; one master mechanic's office, 42x50 feet; one oilhouse, 20x50 feet; one storekeeper's office, 42x50 feet; one storehouse, 42x250 feet; one storehouse shed, 42x100 feet; casting platform, 48x430 feet; pattern-house, 40x60 feet; tool-house, 20x40 feet; wheel shop, 40x90 feet; machine shop, 90x300 feet; transfer table, 65x400 feet; brass shop, 45x60 feet; tin shop, 45x60 feet; boiler and blacksmith shop, 90x300 feet; coal and coke house, 28x90 feet; iron-house, 24x90 feet; paint shop, 90x180 feet; car shop, 90x220 feet; wood machinery shop, 90x180 feet; lumber house, 30x100 feet. C. W. F. Felt, chief engineer, Galveston, Texas.

Corpus Christi-Mining, etc.—Chartered: The Sierra Boluda Mining & Prospecting Co., capital stock \$50,000, to do a general mining business in Texas and Mexico; incorporators: H. W. Tucker, A. G. Heaney, G. W. Westervelt, H. R. Sutherland and Peter Baldeschwiler.

Coriscana-Flour Mill.—An endeavor will be made to organize a company of farmers to build a custom wheat mill. J. R. Henderson, J. G. Willis, A. F. Stewart, J. T. Cornwell and others are interested, any one of whom may be addressed.

Frost-Oil Mill.—T. J. Sheppard, D. W. Bennett, D. K. Robinson and R. L. Robinson have incorporated the Frost Cotton Oil Co., with capital stock of \$20,000, for the purpose of manufacturing cottonseed oil, etc.

Port Arthur-Dry-dock.—The directors of the Port Arthur Dock & Channel Co. have decided to construct a dry-dock that will accommodate vessels 500 feet long. A. E. Stilwell, president, Kansas City, Mo., can be addressed.

Velasco-Ice Factory.—Shaw & Koffroth will erect an ice factory, as noted recently; capacity to be four tons daily.

#### VIRGINIA.

Petersburg-Tobacco Company.—Incorporated: The Bland Tobacco Co., capital stock \$50,000, with president, Harrison B. Huntoon, of Providence, R. I.; vice-president, Duncan Wright, of Petersburg; secretary and treasurer, Robert P. Hamilton, of Petersburg. Address the latter.

Pulaski-Mining, etc.—Chartered: The Carter Coal & Iron Co., formed to mine iron, coal, zinc and other minerals, etc. The capital stock is to be not less than \$100,000 nor more than \$5,000,000; officers of the company: George L. Carter, of Pulaski, president; T. P. Trigg, of Norfolk, vice-president; George L. Carter, of Pulaski, treasurer. The board of directors consists of the above and Messrs. H. G. Robinson, of Pulaski; H. Hardaway, of Lotus, Va., and Hobart Miller, of Coeburg, Va. Address the president.

Richmond-Implements, etc.—The T. J. King Co. has been incorporated, with capital stock of \$10,000, to deal in implements, etc.; T. J. King, president; W. Meade Adamson, vice-president, and C. W. Winn, secretary-treasurer.

Salem-Orchard Company.—Chartered: The Diamond Orchard Co., with Col. A. M. Bowman as president and T. J. Shickel secretary and treasurer. The company has purchased 450 acres of land on the south side of Roanoke river, and the tract will be planted in fruit trees. It will take 45,000 trees to plant the land, 3000 of which have already been ordered. Address the secretary.

#### WEST VIRGINIA.

Centalla-Lumber Booms.—Chartered: The Centalla Boom & Lumber Co., for the purpose of operating a boom in the Elk river. The capital stock is \$4800; incorporators: Robert B. Smith, of Mount Pleasant, Pa.; L. V. Sutton, McKeesport, Pa.; John Curry, Connellsville, Pa.; Anton Fritz, Sutton, W. Va., and John Bigam, Sutton, W. Va. Address Anton Fritz, Sutton, W. Va.

Charleston-Coal Mines and Coke Ovens.—Incorporated: The Briar Mountain Coal & Coke Co., capital stock \$100,000, by Frank Cox, A. E. Humphreys, J. W. Carnes, H. H. Huling and W. H. Peyton.

Charleston-Mining.—Chartered: The Davis Mining Co., authorized to operate in San Juan county, Colorado. The principal office will be at Charleston. The capital authorized is \$500,000. The incorporators are George Davis and A. E. Humphreys, of Charleston; John A. McGuffin, of Sewell; R. F. Kavanaugh and W. H. Bryant, of Denver, Col. Address Geo. Davis, Charleston, W. Va.

Charlestown-Electric Plant, etc.—G. N. Horn and B. D. Gibson, of Charlestown; John A. Livers, of Pennsylvania, and others have incorporated the Charlestown Electric Light, Heat & Power Co., with capital stock of \$15,000. Address G. N. Horn.

Parkersburg-Oil Wells.—Chartered: The New York Petroleum Co., with capital of \$500,000. Gilbert L. Watson, of Parkersburg, and New York parties are incorporators. Address Gilbert L. Watson, Parkersburg.

Piedmont-Telephone Systems, etc.—The Gordon Telephone Co., recently reported as incorporated, has completed a system at Piedmont and is about to make long-distance connections with other points. Company's capital stock is \$100,000, and \$50,000 of this is fully subscribed. Address 40 Broad street, New York city.

Welch-Mining.—Chartered: The Elkhorn-Alaska Gold Mining & Developing Co., \$2500 capital, with privilege of increasing to \$100,000. The stockholders are L. Netland, F. O. Barnes, John M. Schmidt, Alfred Reddington and J. Walter Morgan, all of Welch, W. Va. Address the last-named.

#### BURNED.

Andersonville, N. C.—Cotton gin of W. B. McLendon.

Atlanta, Ga.—Oil mill of the Georgia Cotton Oil Co.; loss \$117,000.

Columbus, Ga.—Cotton gin of Judge E. H. Almond, near Columbus.

Cotton gins of C. F. Kroeger, at Calaveras, Texas; W. E. Hundley, near Garland, Texas.

Waskon, Texas.—Cotton gin of C. M. Abney.

Water Valley, Miss.—Cotton gin of J. E. Backstoun, near Water Valley.

#### BUILDING NOTES.

Charlotte, N. C.—Warehouse.—The Charlotte Bonded Warehouse Co. has been incorporated, with capital of \$12,000, to build and operate the warehouse recently noted. H. S. Chadwick can be addressed.

Chattanooga, Tenn.—Business Block, etc.—R. H. Hunt, architect (Eighth and Broad streets), has let contract recently for Miller Bros. for the erection of a business block to cost \$63,000; elevators, steam-heating plant, electric plant, plumbing, etc., not yet contracted for. Mr. Hunt has also let contract for two residences, to cost \$7000, for the Junz estate.

Columbia, S. C.—Residence.—Wilson & Edwards are preparing plans for a residence for Dr. L. B. Folk.

El Paso, Texas—Dwellings.—Permits granted to Campbell Real Estate Co. for erection of two brick residences, to cost \$2300 each; for business block, to cost \$14,000, and for two residences, to cost \$3000 each.

Greensboro, N. C.—Dwellings.—T. A. Lyon contemplates erecting six new dwellings.

Greensboro, N. C.—Dwellings.—T. A. Lyon contemplates the erection of six dwellings.

Kansas City, Mo.—Union Depot.—A movement is on foot for the erection of a new union depot, and it is probable that the railroad will arrange for the expenditure of about \$1,000,000 on buildings, site, trackage, etc. Information can be obtained of E. S. Washburn, president Union Depot Co.

Louisville, Ky.—Church.—R. H. Hunt, architect, of Chattanooga, Tenn., has under way a \$40,000 church building in Louisville; plumbing, lighting, glass, frescoing, etc., has not yet been contracted for.

Macon, Ga.—Hospital.—An addition will be built to the City Hospital at a cost of \$3000. Address Superintendent City Hospital.

New Martinsville, W. Va.—Jail.—Franzheim, Glesey & Faris, of Wheeling, W. Va., will prepare plans for the proposed \$10,000 jail for Wetzel county.

New Orleans, La.—Dwellings.—Permits granted: To Mrs. August Knitsch for a single frame cottage to cost \$1200; to Alfred Tufts for a two-story frame dwelling to cost \$2500; to Mrs. H. Easton for a single frame cottage to cost \$1300; to Arthur Denis for rebuilding three-story brick structure to cost \$1800.

Spray, N. C.—Warehouse.—The Spray Cotton Mills will build a warehouse.

St. Louis, Mo.—Dwellings.—H. C. Chivers has prepared plans for residence for E. J. Franklin; Festus J. Wade, president Anderson-Wade Realty Co., will erect a large business structure.

Tallulah, La.—School.—Bids will be opened November 1 for the erection of schoolhouse according to plans and specifications. Address G. M. Long, president school board.

Tampa, Fla.—Church.—The Roman Catholics will build a church to cost \$110,000. Rev. Father Tyrrell can be addressed.

Union, S. C.—Warehouse.—Incorporated: The Union Warehouse Co., George C. Perrin, president and treasurer, and E. J. Arthur, secretary.

Washington, D. C.—Dwellings, etc.—Frederick N. Carlisle & Co. have prepared plans for a residence for Wharton E. Lester, to be of red sandstone, 28x80 feet, three stories high, heated by hot water and lighted by electricity. Miss Frances L. White will build a residence after plans by Wm. J. Marsh, to contain steam heat, ivory-white woodwork, etc. Glenn Brown has prepared plans for parish home for St. Michael's and All Angels' Home. Frederick A. Schmidt will erect four-story business building, 107x20 feet, after plans by Glenn Brown. Appleton P. Clark has prepared plans for ten brick houses for M. W. Mines. Edward Wolts has prepared plans for eleven residences for Christian J. Uphoff, to cost \$6500 each; to have electric fixtures, cabinet mantels, hot-water heat, tiled baths, etc. Thomas M. Haislip has made plans for \$3500 residence for J. Edward Scott. J. M. Fifield will build a store and dwelling, to cost \$5000; to have furnace, tiled bath, etc. C. H. Gladden has prepared plans for two dwellings, to cost \$6000. A. Goenner has planned ten dwellings.

#### RAILROAD CONSTRUCTION.

##### Railways.

Abbeville, La.—The Franklin & Abbeville Railroad Co. has published articles of incorporation which state that the company is to have \$250,000 capital and is to build and operate a line through the parishes of St. Mary's, Iberia and Vermilion. The road will extend from Franklin to Abbeville. Among those interested are Thomas Sully, of New Orleans; Donelson Caffery, of the same place, and T. D. Hine, of Franklin, La.

Baltimore, Md.—The Baltimore, Hallethorpe & St. Denis Railroad Co. has asked the county commissioners for a franchise to construct its line over several roads in Baltimore county. It is intended to build a trolley line from the western suburbs in the city through the places mentioned, William Ingle, at the Merchants' National Bank of Baltimore, is one of the company.

Baltimore, Md.—It is reported that the sale of the Columbia & Maryland Railroad has practically been closed and that the purchasers include Henry A. Parr, David Newbold and Robert Carswell, all of Baltimore. It is understood that Mr. Parr will be president of the new company and that the line will be completed at least as far as Ellicott City.

Farmington, Mo.—A correspondent of the Manufacturers' Record writes that W. E. Bailey, 415 Commercial Building, St. Louis, Mo., is the promoter of the railroad proposed between Farmington and DeLassus. The road is to be three miles in length, and it is stated will be operated by electric power.

Fort Smith, Ark.—It is reported that the work of clearing the right of way on the St. Louis, Siloam & Southern road has begun. This is the line which H. D. Mackey, of Pomona, Mo., and others have been promoting.

Frankfort, Ky.—The Ohio River, Tidewater & Cynthiana Railroad Co., with \$25,000 capital, has been formed. The line is to run through Carroll and several other counties in the State to Irvin, Ky., and is part of the plan which Albert E. Boone is promoting.

Galveston, Texas.—The Galveston Wharf Co. has determined to add several miles of track to its terminals on the harbor. It is understood that in all twenty miles of track will be laid during the next year. A. A. Davis is president of the wharf company.

Haylow, Ga.—G. S. Baxter & Co., owners of the Atlantic, Valdosta & Western Railroad, advise the Manufacturers' Record that the total length of this line will be over 100 miles. About seventy miles of extension will be built in all. This company has an office also at 18 Wall street, New York.

Huntington, W. Va.—It is reported that the Chesapeake & Ohio Railroad Co. is considering the extension of its line along the Kanawha river to a point on the Ohio river opposite the terminus of the Columbus, Hocking Valley & Toledo Railroad. If the extension is built, the two systems will be connected by a bridge across the Ohio river. M. E. Ingalls, at Cincinnati, O., is president of the Chesapeake & Ohio Railroad Co.

Kingwood, W. Va.—It is reported that surveys have been completed for the railroad along the Cheat River valley, which, it is understood, is to extend to Point Marion. J. M. Guffy, of Pittsburg, it is stated, is one of the promoters of the enterprise.

Kirkwood, Mo.—It is reported that construction work has begun upon the proposed electric railroad between Kirkwood and the suburbs of St. Louis, which is to run by way of Affton. Among those interested are J. B. Carlton, of Kirkwood. The road, it is understood, will be used for both passenger and freight.

Parkersburg, W. Va.—W. A. McCosh, one of the promoters of the Parkersburg & Marietta Traction Co., advises the Manufacturers' Record that a company has been incorporated to construct an electric line between the towns mentioned, also to operate street railway lines in both Parkersburg and Marietta, Ohio. The system will include a bridge across the Ohio river, and will be about twelve miles in length. The work of securing the right of way between Parkersburg and Williamstown, W. Va., has already commenced.

Pen-Mar, Md.—It is reported that construction work has begun upon the power-house, also the line of the Blue Ridge Electric Railway. About ten miles of track it is stated will be laid in all. Among the promoters are Simon P. Schott and Winfield S. Cahill, of Baltimore.

Portsmouth, Va.—The company which is building the Belt Line in the suburbs of Portsmouth is entitled the Southeastern &



Atlantic Railroad Co. A. J. Cassett, of 26 North Fifteenth street, Philadelphia, Pa., is president.

Sedalia, Mo.—The company promoting the railroad between Sedalia and a point in Iowa by the way of Marshall and Miami, Mo., has elected O. C. Drew, of Houston, Texas, president; A. L. Strang, of Sedalia, vice-president and general manager; S. C. Gould, of Sedalia, secretary and treasurer. It is understood that the company will have \$750,000 capital.

Sedalia, Mo.—Woodford Brooks, one of the promoters of the railroad line from Sedalia to McAllister Springs, advises the Manufacturers' Record that this road will be about twenty-five miles in length. It is stated that it is to be built as soon as a franchise is obtained from the city council of Sedalia. When this is granted a charter will be obtained immediately. Mr. Brooks's present address is Atlanta, Ga.

Waco, Texas.—It is reported that the Waco & Sabine Pass Railroad Co. has secured donations in lands and right of way amounting to \$500,000. R. P. Duncan is one of the principal promoters of the company. It is stated that a bond issue will probably be made which will be taken by Northern capitalists.

Washington, D. C.—The Washington & Rockville Railway Co., which has been incorporated in Maryland to construct an electric line from a point in the District of Columbia to Bethesda Park, has among its directors Oscar T. Crosby, of Washington, and Albert Almonney, of Montgomery county, Maryland.

Windsor, N. C.—J. W. Branning, president of the Washington & Powellville Railroad Co., in a letter to the Manufacturers' Record, states that two-thirds of the grading work upon the line has been completed. It is to be built between Ahokey and Windsor, N. C., a distance of twenty-one miles. It will connect with the Atlantic Coast Line at Ahokey. The main office is at Edenton, N. C. Horton Corwin is secretary and treasurer, and C. E. Branning superintendent of the company.

Woodburn, Ga.—W. F. Carter, one of the syndicate which recently purchased the Cuyler & Woodburn Railroad, confirms the report that this line is to be extended to Statesboro. The extension will be about twenty miles, and will be completed within the next year. One of the owners of the road is Stillson Hutchins, of Washington, D. C.

#### Street Railways.

Savannah, Ga.—It is stated that the Savannah street railway companies will be obliged to make a number of changes in their present routes, and that several miles of additional track will be required, on account of ordinances which have been passed by the city council. J. N. Harriman is a director of the Savannah, Thunderbolt & Isle of Hope Railroad Co., and Herman Myers of the Savannah Railway Co.

St. Louis, Mo.—Bills have been introduced in the city council asking for franchises for the Hamilton Avenue & Baden Railroad Co., for the Cabanne Place Railroad Co., for the Southern Electric Railroad Co. and for an extension of the Union Avenue Line. It is understood that most of these franchises are for the Lindell Railroad Co., of which E. Whitaker is general manager. The trolley system, it is stated, will be used on all of the lines.

Washington, D. C.—The underground conduit system which will be used by the Capital Traction Co. of Washington will be placed on fifteen miles of track and most of the contracts for the work have been let. The company will use additional machinery, also additional rolling stock to the extent of \$750,000. D. S. Carl is chief engineer of the company.

#### Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Boiler and Engine.—F. W. Blair (foot of Moon street), Chattanooga, Tenn., is in the

market for engine 75 to 100 horse-power, and boiler 100 to 125 horse-power. (See "Saw Mill.")

Boiler and Engine.—The Boss Knitting Machine Works, Seventh and Walnut streets, Reading, Pa., will want a 50-horse-power to 60-horse-power engine and a 80 to 100-horse-power boiler; also heating apparatus and exhaust fans for factory.

Boiler and Engine.—The McDaniel Saw Mill & Manufacturing Co., Elkin, N. C., wants prices on 15-horse-power centre-crank engine, horizontal pattern, and 20 to 25-horse-power horizontal boiler; both to be in good second-hand condition.

Boiler and Engine (power for well-driller).—See "Well-drilling Machinery."

Canning Machinery.—Ezra F. Landis, care of Gelser Manufacturing Co., Model City, N. Y., wants bids on canning equipment.

Cotton-mill Machinery.—The Joseph D. Boyd Manufacturing Co., Griffin, Ga., wants plans and estimates on equipment for manufacture of cotton rope and twine; building 75x100 feet is now ready. Address J. W. Mangham, manager.

Crockery.—The Goldsboro Furniture & Crockery Co., Goldsboro, N. C., wants catalogues and prices on crockery, etc. Address care of W. K. Parker.

Dry-kiln.—The McDaniel Saw Mill & Manufacturing Co., Elkin, N. C., will want dry-kilns.

Dry-kilns.—L. L. Stephenson, Elberton, Ga., wants prices and information on steam brick dryer, 25,000 daily capacity.

Electrical Machinery.—The Biddle Manufacturing Co., 110 Mabry street, Knoxville, Tenn., is in the market for a 100-light dynamo, 110 volt; second-hand apparatus will answer.

Electric Plant.—Electric plant will be wanted for \$63,000 mercantile building at Chattanooga, Tenn. Address R. H. Hunt, architect, Eighth and Broad streets.

Electric Plant.—Sealed proposals will be received until November 30 for installing an electric-light and power plant in the post-office building, Washington, D. C. Proposals will be received as follows: First, for tubing and wiring the building; second, for dynamos and engines; third, for the plant complete. Specifications and plans can be obtained upon application to the chief clerk, Treasury Department. Proposals should be addressed to the Secretary of the Treasury, and endorsed: "Proposals for Electric-light and Power Plant, Postoffice Building, Washington, D. C." O. L. Spaulding, assistant secretary.

Elevators.—Elevators will be wanted for a \$63,000 mercantile building at Chattanooga, Tenn. Address R. H. Hunt, architect, Eighth and Broad streets.

Exhaust Fans.—The Boss Knitting Machine Works, Seventh and Walnut streets, Reading, Pa., will want exhaust fans.

Furniture.—The Goldsboro Furniture & Crockery Co., Goldsboro, N. C., wants catalogues of furniture, prices, etc. Address care of W. K. Parker.

Heating Apparatus.—The Boss Knitting Machine Works, Seventh and Walnut streets, Reading, Pa., will want heating apparatus and exhaust fans.

Heating Apparatus.—Steam-heating plant will be wanted for \$63,000 mercantile building at Chattanooga, Tenn. Address R. H. Hunt, architect, Eighth and Broad streets.

Ice Factory.—J. D. Oxler, Corinth, Miss., wants a small ice-factory outfit (second-hand).

Laundry Machinery.—Dixie Steam Laundry, Roanoke, Va., wants to buy a second-hand collar and cuff ironer and extractor, with shafting.

Machine Tools.—Graham Bros., 4 Corydon street, Bradford, Pa., want a jointer, a shaper and a pony planer; second-hand will do.

Machine Tools.—The McCay-Howard Engineering Co., 106 East German street, Baltimore, Md., wants a second-hand screw-cutting press and a second-hand foot punching press.

Magaphones.—R. E. Briesenick, 210 Bay street, Brunswick, Ga., wants addresses of magaphone manufacturers.

Oil Mill.—W. B. Roberts, Rosedale, Miss., wants addresses of manufacturers of cottonseed-oil mill equipments.

Oil Mill (Peanut).—J. J. Gerig & Co., Ocala, Fla., wants information regarding the manufacture of peanut oil, and estimates on cost of mills for that purpose.

Pipemakers.—Thompson C. Gill & Co., 308 Walnut street, Philadelphia, Pa., wants addresses of brass and flexible pipe manufacturers.

Pipe (Smoking) Machinery.—C. C. Perdue, 2413 Douglas street, Philadelphia, Pa., wants to buy machinery for the manufacture of wooden tobacco pipes, reed stems, etc.

Plumbing.—Plumbing in \$63,000 mercantile building at Chattanooga, Tenn., not yet contracted for. Address R. H. Hunt, architect, Eighth and Broad streets.

Saw Mill.—McQueen & Robison, Branford, Fla., will buy saw mill.

Saw Mill.—F. W. Blair (foot of Moon street), Chattanooga, Tenn., is in the market for complete saw-mill equipment for 35,000 feet daily capacity; plant to include right-hand double circular saw that will take a 72-inch Lowe saw; either steam or friction feed; a 16-foot carriage, with either three single or two winged blocks, that will open not less than 48 inches; engine 75 to 100 horse-power; boiler 100 to 125 horse-power; gang edger, lath mill, trimmer and slab saw.

Soap Machinery.—George L. Smith, Cadiz, Ky., wants machinery for manufacturing toilet soap and kindred articles.

Telephone Equipment.—The Wellsburg Telephone Co., W. K. Cummings, manager, Wellsburg, W. Va., wants prices on telephones; also on small power generator for exchange; combined water motor and generator preferred.

Water Works.—See "Well-drilling."

Well-drilling.—The city of Slater, Mo., will open bids November 8 for the drilling of one or more artesian wells, etc. Address R. L. Harvey, mayor.

Well-drilling Machinery.—Dan C. Crider, Kerrville, Texas, is in the market for a well-drilling machine that will cut six inches diameter and 200 feet deep; also wants horse-power for running same.

Woodworking Machinery.—The McDaniel Saw Mill & Manufacturing Co., Elkin, N. C., will want woodworking machinery.

Woodworking Machinery.—W. C. Boykin, land agent, etc., Dyer Building, Atlanta, Ga., wants prices on barrel-hoop machinery.

Woodworking Machinery.—G. C. Harris & Co., Johnson City, Tenn., wants machinery for the manufacture of curtain rods.

#### Winter Excursion Tickets on the Pennsylvania Railroad.

On November 1 the Pennsylvania Railroad Co. will place on sale at its principal ticket offices excursion tickets to all prominent winter resorts in New Jersey, Virginia, North and South Carolina, Georgia, Florida and Cuba. The tickets will be sold at the usual low rates, with the usual liberal return limits.

The magnificent facilities of the Pennsylvania Railroad, with its many connections, make this the favorite line for winter travel.

An illustrated book, descriptive of winter resorts, and giving routes of travel and rates for tickets, will be furnished free on application to ticket agents.

#### Personally-Conducted Tours via Pennsylvania Railroad, Season of 1897-98.

The personally-conducted tourist system of the Pennsylvania Railroad Co. is the highest perfection yet attained in railway travel; it affords all the comforts and conveniences of modern railway equipment, and at the same time eliminates all anxiety and annoyance inseparably connected with individual travel.

For the season of '97 and '98 it has arranged for the following tours:

California.—Four tours, leaving New York, Philadelphia and Pittsburgh January 8, January 27, February 16 and March 19. With the exception of the first party going and the last returning, all of these parties will travel by the "Golden Gate Special" between New York and California, stopping at interesting points en route.

Florida.—Four tours to Jacksonville will leave New York and Philadelphia January 25, February 8 and 22 and March 8. The first three admit of a sojourn of two weeks in the "Flowery State." Tickets for the fourth tour will be good to return by regular trains until May 31, 1898.

Tickets for the above tours will be sold from all principal stations on the Pennsylvania Railroad.

For detailed itineraries, giving rates and full information, address B. Courlander, Jr., Passenger Agent Baltimore District, Baltimore, Md., or Geo. W. Boyd, Assistant General Passenger Agent, Philadelphia.

## FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

No advertisements but those of a financial character will be accepted for the following page.

#### New Corporations.

The Bank of Whitecastle has been organized at Plaquemine, La., with \$15,000 capital. G. N. Bowie is president, and W. G. Owen, vice-president.

The Sherrod Banking Co. has been organized at Nashville, N. C., with \$10,000 capital. It is stated that the concern will occupy the building formerly used by the Bank of Nashville.

The Star Life Insurance Co. of Grafton, W. Va., has been organized, with \$20,000 capital, with the following officers: J. H. Rector, president; J. W. Hamilton, vice-president and secretary; A. Rightmire, treasurer, and Jacob Smurthwaite, general manager.

#### New Securities.

The city of Gallatin, Mo., has decided to issue \$25,000 in bonds for water-works and electric-light purposes. Address the mayor.

The people of Jefferson City, Mo., are considering the issue of \$10,000 in improvement bonds. The mayor will give further information.

Kerr county, Texas, will probably issue \$18,000 worth of refunding bonds. The board of county commissioners may be addressed at Kerrville.

The city of Jacksonville, Fla., will receive bids until December 7 for \$43,500 worth of bonds for improvements. The mayor may be addressed.

Sevier county, Tennessee, will issue \$40,000 in bonds for road improvements. The board of county commissioners may be addressed at Sevierville.

The town of Marceline, Mo., is considering the plan of issuing bonds for water-works purposes. The town clerk will give further information.

It is reported that the people of La Grange, Mo., have voted in favor of issuing \$6,000 in bonds for an electric-light plant. Address the mayor.

The people of Mount Sterling, Ky., are considering the proposed issue of \$62,000 worth of 5 per cent. bonds for water-works purposes. Address the town clerk.

The town of Slater, Mo., it is stated, will place \$15,000 worth of 5 per cent. bonds on the market about December 1. The mayor will give further information.

The issue of \$25,000 in bonds, made by Scranton, Miss., are still on the market. They bear interest at the rate of 6 per cent. J. D. Clark, acting mayor, may be addressed.

It is reported that the town of Lewisburg, W. Va., has voted in favor of issuing \$13,500 in bonds for water-works purposes. The mayor will give further information.

It is probable that the city of Key West, Fla., will place upon the market in the near future the issue of bonds which are necessary to pay a claim against the city. G. B. Patterson is city attorney.

The county commissioners of Clayton county, Georgia, have determined to order an election to decide upon an issue of bonds for courthouse purposes. The board may be addressed at Jonesborough, Ga.

It is reported that the Charleston City Railway Co. is considering an issue of \$850,000 in 5 per cent. gold bonds, which



will be secured by a mortgage on the property of the company in Charleston. J. S. Lawrence is a director of the company.

#### Dividends and Interest.

Interest due on bonds of the Consolidated Railroad Co. will be paid by Hambleton & Co., of Baltimore.

Interest on 5 per cent. bonds of the City Passenger Railway Co. will be paid at the National Bank of Baltimore.

The Dukehart Brewing Co. of Baltimore announces that the semi-annual interest on its bonds will be paid by the National Bank of Baltimore.

Messrs. Townsend, Scott & Sons, of Baltimore, will pay interest due on the 5 per cent. and 8 per cent. bonds issued by the city of Staunton, Va.

The Safe Deposit & Trust Co. of Baltimore will pay the interest coupons due November 1 on the special mortgage bonds of the Brush Electric Co.

Interest coupons of bonds issued by Manchester, Va., will be paid by the Mechanics and Merchants' Bank of that town and by the State Bank of Richmond, Va.

The following coupons, due November 1, 1897, are payable by the Mercantile Trust & Deposit Co. of Baltimore: Paducah Water Co. first 6s, Merchants' & Miners' Transportation Co. 4s, Charlotte Water Co. 6s, Americus Illuminating & Power Co. 6s, Arundel Building Co. 5s, City of Winston Public Improvement 5s, Durham & Northern Railway 6s, Monongahela River Railroad 6s.

The following is a list of interest disbursements made by railroad corporations in the South, beginning November 1: Alabama Midland 6s, \$84,000; Central of Georgia 5s, \$412,500; Chesapeake & Ohio 5s, \$588,825; Illinois Central 7s, \$47,725, 4s, \$493,580; International Great Northern 6s, \$238,620, 5s, \$15,883, 7s, \$7035; Kansas City, Fort Scott & Memphis 6s, \$386,370; Louisville & Nashville 4 1/2s, \$79,380, 6s, \$1930, 5s, \$172,100; Macon & Birmingham 5s, \$47,500; Missouri, Kansas & Texas 5s, \$62,825, 7s, \$20,965; Missouri Pacific 8s, \$32,000, 7s, \$343,980, 6s, \$447,120; Nashville & Knoxville 6s, \$33,370; Nashville, Chattanooga & St. Louis 6s, \$720; Norfolk & Southern 5s, \$15,625; Norfolk & Western 6s, \$218,490; Northern Central (Union Railroad) 6s, \$18,000; Ohio & Mississippi 7s, \$70,315, 5s, \$3375; Richmond, Fredericksburg & Potomac 6s, \$9000; Richmond & Petersburg 6s, \$9000, 7s, \$1750; St. Louis & San Francisco 6s, \$170,995; St. Louis Southwestern 5s, \$400,000; Southern Railroad 4 1/2s, \$10,250, 5s, \$419,250; South & North Alabama 6s, \$134,907; Tennessee Midland 5s, \$65,100; Vicksburg, Shreveport & Pacific 6s, \$39,690; Virginia Midland 5s, \$121,475; Western Maryland 5s, \$6000.

#### Financial Notes.

W. Martin has been elected president of the First National Bank of Comanche, Texas; L. R. Lindsey, vice-president, and J. B. Herndon, cashier.

The National Association of Credit Men has issued in pamphlet form the address on "Individual Credits," made at the meeting of the association at Kansas City, Mo., by Mr. James G. Cannon, the vice-president of the Fourth National Bank, New York, and president of the association. The address deals with the basic principles of credit, and will undoubtedly have a wide reading.

The Georgia geological survey has issued the first of a series of bulletins on the water-powers of the State. It was compiled by Mr. B. M. Hall, and many requests for copies of it have been received.

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#### TRADE LITERATURE.

"Mines and Minerals."—The Colliery Engineer and Metal Miner, of Scranton, Pa., has changed its name to "Mines and Minerals." The reasons for so radical a change in the title of this excellent publication are given in a circular now ready.

Cross-arm Machinery.—In the new catalogue of the Chattanooga Machinery Co., of Chattanooga, Tenn., appears a complete description and illustration of the machines manufactured by this company and used in the production of insulator pins, brackets and cross-arms.

Wire-fence Machine.—Plain and ornamental wire fences are common sights on country and suburban property. This result has been attained by the use of automatic fence machines, one of the most prominent and practical of which is the duplex automatic woven-wire fence machine, manufactured by Kitzelman Bros., of Ridgeville, Ind. In their 1897 catalogue the firm pre-

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Sold at \$100 per share, with Dividends at the rate of 8 per cent. per annum, payable semi-annually on the first days of January and July of each year. Sales of this class of stock is limited and will be discontinued on January 1, 1898. Assets consist of FIRST MORTGAGE ON IMPROVED REAL ESTATE.

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Remember that I purchase all kinds of Endowment, Tontine and Distribution Insurance Policies at most liberal prices. Business done through banks. Give full particulars when writing.

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sents a number of the designs which the duplex machine produces, and full explanation of the device, prices and other information is given.

## FOR THE Renting and Purchasing

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**Warehouses,  
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## Important Notice.

ABSOLUTE SALE, by Trustee, under decree of foreclosure, at Public Auction, of the very extensive and thoroughly equipped

**Steel Rolling Mill Plant of the  
Sweet's Manufacturing Co.**  
at Syracuse, N. Y.

including valuable REAL ESTATE, MACHINERY, TOOLS, IMPLEMENTS, PATENTS, &c., in running order. Every facility given to thoroughly examine the property.

Sale will take place at 10 o'clock A. M.,  
**NOVEMBER 17th, 1897,**  
at the premises.

For further particulars apply to  
**STERN & RUSHMORE,**  
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40 WALL STREET, NEW YORK CITY.

## MARYLAND TRUST CO.

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**A LEGAL DEPOSITORY FOR COURT  
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Acts as Financial Agent for States, Cities, Towns, Railroads and other Corporations. Transacts a general trust business. Lends money on approved security. Allows interest on special deposits. Acts as Trustee under Mortgages, Assignments and Deeds of Trust; as Agent for the Transfer or Registration of Stocks and Bonds, and for the payment of coupons, interest and dividends.

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If you have any municipal bonds or warrants, taken in payment for building waterworks, court or school houses, jails, etc., write us. Conditions being favorable, we can use them.  
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**Paid-up Capital, \$1,000,000.**  
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On which interest is allowed, governed by current rates obtainable.

**TRUSTEES AND ADMINISTRATORS.**  
This company is a *Legal Depository* for funds in the hands of Trustees or Administrators, and allows interest on same pending distribution. Authorized to act as Executor, Administrator, Guardian, Receiver or Trustee. ACTS as Trustee of Mortgages of Corporations and accepts Transfer Agency and Registry of Stocks. Safe Deposit Boxes for Rent. Vaults supplied for Storage of Silver Chests, etc.  
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## The BIG UNION Mining Co.

Owens and is now opening up rich gold mines in the famous Leadville Gold Belt of Colorado. Its mines lie on the same contact vein with the most noted of the great Leadville mines. One of these, the "Little Johnny," is the greatest gold mine in Colorado and perhaps in the world. Its present output is about \$300,000 per month, and it is now paying monthly dividends of \$100,000 to \$200,000. The officers and stockholders of the company are not speculators but are well-known conservative business men. Here are some of them:

**OFFICERS:**  
**R. E. LYON, President.**  
**STEPHEN H. EMMENS, Vice-President.**  
**H. B. TILDEN, Treasurer.**

**DIRECTORS:**  
**B. L. Duke,** the great tobacco manufacturer of Durham, N. C.  
**W. T. O'Brien,** of the American Tobacco Co., Durham, N. C.  
**Stephen H. Emmens,** Pres. of the Mining and Industrial Exchange, New York City.  
**R. E. Lyon,** of Baltimore, Md.  
**L. D. Heartt,** Cashier First National Bank, Durham, N. C.  
**H. B. Tilden,** of Baltimore, Md.  
The stock of this company has been listed on the New York Mining and Industrial Exchange. The office of the company is at 849 Equitable Building, Baltimore, Md.  
The treasury stock now being offered affords an investment opportunity that is well worth looking into.

The company does not care to sell in small lots, but will be glad to confer with investors with reference to the purchase of large blocks. The officers feel confident that the facts to be presented concerning the company's property will appeal to the best informed and most conservative and cautious investor.



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<b>C</b>	Cady, C. N. .... 48	Caldwell, H. W., & Son Co. .... 4	Calera Lime Co. .... 6	Cameron, A. S., Steam Pump Wks. .... 42	Cameron & Barkley Co. .... 44	Card Electric Co. .... 47	Cardwell Machine Co. .... 38	Carlin's, Thomas, Sons. .... 27	Carnell, George. .... 25	Carolina Veneer Works. .... 27	Caroline Iron Works. .... 45	Cerver Cotton Gin Co. .... 39	Case, J. I., T. M. Co. .... 16	Case Mfg. Co. .... 9	Castner & Curran. .... 19	Central Expanded Metal Co. .... 35	C. G. .... 27	Channon, H., Co. .... 10	Chapman, Wm. A., & Co. .... 6	Chapman Valve Mfg. Co. .... 17	Charlotte Machine Co. .... 37	Chattanooga Fdy. & Pipe Works. .... 10	Chattanooga Machinery Co. .... 28	Chattanooga Steel Roofing Co. .... 34	Chesapeake Belting Co. .... 11	Chester Steel Castings Co. .... 13	Chicago Belting Co. .... 10	Chrome Steel Works. .... 13	Cincinnati Corrugating Co. .... 35	Cincinnati Elevator Works. .... 8	Cin., Hamilton & Dayton R. R. .... †	Cincinnati Screw & Tap Co. .... 33	Clark, W. J., Co. .... 8	Clendenin Bros. .... 48	Cleveland, Lorain & Wheeling Ry. .... 41	Climax Mfg. Co. .... 13	Clonbrock Steam Boiler Co. .... 18	Coburn Trolley Track Mfg. Co. .... 9	Cohoes Iron Fdy. & Mch. Co. .... 37	Commercial Electric Co. .... 47	Commercial Wood & Cement Co. .... 6	Committee on Drainage. .... 25	Contractors' Plant Mfg. Co., Ltd. .... 9	Cordesman Machine Co. .... 29	Cordesman, Meyer & Co. .... 30	Cornman Co. .... 27	Cortright Metal Roofing Co. .... 34	Cotton States Belting & Supply Co. .... 24	Covett Mfg. Co. .... 39	Cowley, E. A. .... 235	Cox & Sons Co. .... 12	Cox, Justice, Jr. .... 25	Crompton & Knowles Loom Wks. .... 4	Cronk Hanger Co. .... 47	Crosby Steam Gage & Valve Co. .... 17	Cruikshank, D. B. .... 27	Curtis & Marble Machine Co. .... 37	Cutler Mfg. Co. .... 35	Cypress Lumber Co. .... 8		
<b>D</b>	Dallett & Co. .... 28	Davis-Farrar Co. .... 42	Davis Foundry and Mch. Works. .... 43	Davis, G. M., & Son. .... 8	Davis, Kelly & Co. .... 28	Dean Bros. Steam Pump Works. .... 42	De Kalb, Courtenay. .... 25	De Loach Mill Mfg. Co. .... 30	Dempwolf, C. H., & Co. .... 44	Dietz, Schumacher & Boye. .... 13	Disston, Henry, & Sons. .... 31	Dixon, Jos., Crucible Co. .... 48	Dopp, H. Wm., & Son. .... 40	Dow Wire Works Co. .... 35	Draper Co. .... 24	Draper Machine Tool Co. .... 12	Dudley, T. J. & Son. .... 29	Dufur & Co. .... 35	Dunbar, R., & Son. .... 44	Dunning, W. D. .... 25																																									
<b>E</b>	Easton Burnham Machine Co. .... 37	Eaton & Burnett College. .... 40	Eccles, S., Jr. .... *	Eco Magneto Clock Co. .... 47	Empire Paint & Roofing Co. .... 34	Epping-Carpenter Co. .... 32	Etting, Edward J. .... 27	Eureka Fire Hose Co. .... 10	Everson, B. M. .... 27	Exchange Banking & Trust Co. .... 26																																																			
<b>F</b>	Falis Rivet & Machine Co. .... 21	Farquhar, A. B., Co., Limited. .... 28	Fay, J. A., & Egan Co. .... 30	Fay Manilla Roofing Co. .... 35	Fernandina Oil & Creosote Works. .... 28	Fidelity & Deposit Co. of Md. .... 25	Fifield Tool Co. .... 12	Fitz-Hugh & Co. .... 28	Fogg, A. .... 28	Foos Gas Engine Co. .... 16	Foos Mfg. Co. .... 44	Forbes, W. D., & Co. .... 15	Forsyth, S. C., Machine Co. .... 12	Fort Wayne Electric Corporation. .... 47	Fossick Co., T. L. .... 6	Freese, E. M., & Co. .... *	French, Saml. H., & Co. .... 33	Frick Co. .... 15	Froehling, Dr. Henry. .... 6	Fuel Economizer Co. .... 19	Fulton, John. .... 6	Fulton Steam Boiler Wks. & Fdry. .... 19	Furbush, M. A., & Son, Mch. Co. .... 38																																						
<b>G</b>	Gallert, S. .... 26	Gandy Belting Co. .... 11	Garrett, C. S., & Son. .... 35	General Electric Co. .... 37	General Fire Extinguisher Co. .... 32	General Manager. .... 26	Gilbert, C. M., & Co. .... 6	Glaskin, George F., & Co. .... 6	Glen Cove Machine Co., Ltd. .... 30	Globe Machine Works. .... 17	Golden's Foundry & Machine Co. .... 31	Gowdey, J. A., & Son. .... 38	Graphite Lubricating Co. .... 21	Grasty, Robt. Ware. .... 27	Gregory Co., C. E. .... 27	Grosse, L., Art Glass Works. .... 34																																													
<b>H</b>	Haines, Jones & Cadbury Co. .... 48	Haines, William S. .... 20	Hales & Ballinger. .... 6	Hanika, C., & Sons. .... 34	Hansell Spring Co. .... 13	Harrington & King Perforat'g Co. .... 4	Hartford Steam Boiler Inspection & Insurance Co. .... 40	Hartley's Boiler Works. .... 18	Harvey, H. T. .... 26	Haskell Steam Generator Co. .... *	Hawes Mfg. Co. .... 27	Hayes, O. S. .... 26	Help Wanted. .... 26	Hench & Dromgold. .... 28	Henderson, W. K. .... 28	Hendrick Mfg. Co., Limited. .... 32	Hickman, Williams & Co. .... 28	Hiertz, Theo., & Son. .... 13	Hirsch, L. K. .... 28	Holmes, E. & B., Machinery Co. .... 30	Holmes Fibre Graphite Mfg. Co. .... *	Holt, S. L., & Co. .... 27	Hoopes & Townsend. .... 46	Houston, Levi, Co. .... 29	Howard, B. C. .... 6	Humphries Mfg. Co., The. .... 43	Huth Bros. .... 20	Hutton Engineering Co. .... 6																																	
<b>I</b>	Illinois Central Railroad. .... †	India Alkali Works. .... 39	Ingersoll-Sergeant Drill Co. .... 24	International Corres. Schools. .... 6																																																									
<b>J</b>	Jackson Mfg. Co. .... 46	Jeffrey Mfg. Co. .... 8	Jenkins Bros. .... 48	Jewell Belting Co. .... 11																																																									
<b>K</b>	Kansas City, Pittsburg & Gulf R. R. .... 41	Keeler, E., Co. .... 18	Kelly, O. S., Co., The. .... 45	Kelly & Jones Co. .... *	Kendrick Valve & Washer Co. .... 8	Keystone Crusher & Roller Co. .... 45	Keystone Drop Forge Co. .... 32	Kilbourne & Jacobs Mfg. Co. .... 48	Kilburn, Lincoln & Co. .... 36	Knowles Loom Works. .... 37	Knox, Henry E., Jr. .... 6	Kokomo Tele'ne & Elec. Mfg. Co. .... 47																																																	
<b>L</b>	Lagonda Mfg. Co. .... *	Lambert Gas & Gasoline Eng. Co. .... 16	Lambert Hoisting Engine Co. .... 14	Lane Manufacturing Co. .... 29	Lang, S. Logan. .... 26	Leffel, James, & Co. .... 43	Lehigh Valley Brass Works. .... 17	Leisenring Mfg. Co. .... 19	Leonard, Foley & Co. .... 6	Lewis, H. F., & Co., Ltd. .... 39	Lidgerwood Manufacturing Co. .... 9	Lightning Wage Calculator Co. .... 24	Link-Belt Engineering Co. .... 8	Loane, J. W. .... 39	Lobdell Car Wheel Co. .... 32	Lock Box. .... 26	Lombard Iron Wks. & Supply Co. .... 9	Lorain Foundry Co. .... 12	Lowell Machine Shop. .... 38	Lowell Textile School. .... 25	Ludlow-Saylor Wire Co. .... 34	Ludlow Valve Mfg. Co. .... 17	Lunkenheimer Co. .... 48	Lyon, A. I. .... *																																					
<b>M</b>	Main Belting Co. .... 10	Makepeace, C. R., & Co. .... 6	Manistee Iron Works. .... 42	Marion Steam Shovel Co. .... 2	Martin, Hy., Brick Mch. Mfg. Co. .... 25	Maryland Mfg. & Construction Co. .... 19	Maryland Trust Co. .... 235	Mason Machine Works. .... 36	Mason Regulator Co. .... 42	McClave, Brooks & Co. .... 17	McCoy, Joseph F., Co. .... 8	McCully, R. .... 45	McDonald, John, & Sons. .... 6	McDowell, Hamilton. .... 25	McFadden, Charles, Jr. .... 6	McGowan, John H., Co. .... 42	McKenna, David. .... 34	McLanahan & Stone. .... 45	Mead, V. A., Cycle Co. .... 41	Mecklenburg Iron Works. .... 24	Mercantile Trust & Deposit Co. .... 235	Merchants & Miners' Transp. Co. .... 41	Meridian Machine Shops. .... 39	Meyer, Dr. Otto. .... 6	M. F. .... 27	Middendorf, Oliver & Co. .... 235	Milburn, Frank P. .... 6	Miller Bros. & Co. .... 6	Mitchell Tempered Copper Co. .... 47	Mitschun, M., & Co. .... 28	Moore & McCrary. .... 6	More, Jones & Co. .... 32	Morse Twist Drill Mch. Co. .... 13	Morse, Williams & Co. .... 33	Mueller, H., Mfg. Co. .... 8	Mundt & Sons. .... 45	Munson Bros. .... 39	Murray, Dougal & Co. .... 23	Murray, James & Son. .... 44																						
<b>N</b>	National Pipe Bending Co. .... 17	National Roofing & Supply Co. .... 35	New Atlantic Hotel. .... 25	New Columbus Bridge Co. .... 2	N. J. Car Spring & Rubber Co. .... 10	Newburg Ice Mch. & Engine Co. .... 23	Newport News Shipbuilding & Dry Dock Co. .... 19	New Process Rawhide Co. .... 8	New York Equipment Co. .... 28	New York Fireproof Covering Co. .... 4	Niagara Stamping & Tool Co. .... 35	Nicholson File Co. .... *	Nordyke & Marmon Co. .... 8	Norfolk & Western R. R. .... †	Norrish, Burnham & Co. .... 43	North American Metaline Co. .... 9	Norton Emery Wheel Co. .... 33	Nye & Tredick. .... 38																																											
<b>O</b>	Ober Lathe Co. .... 29	Otto Gas Engine Works. .... 16																																																											
<b>P</b>	Pancoast, Henry B., & Co. .... 41	Pancoast Ventilator Co. .... 34	Patitz, A. M. .... *	Paxson, J. W., & Co. .... 2	Peacock, George. .... 28	Pechin, T. E. .... 11	Peck-Hammond Co. .... *	Penberthy Injector Co. .... 48	Perkins Mfg. Co. .... 28	Pettee Machine Works. .... 37	Philadelphia Bourse. .... 9	Philadelphia Eng. Works, Ltd. .... 15	Phila. Machine Screw Works. .... *	Philadelphia Steel Roofing Co. .... 35	Pierce-Crouch Engine Co. .... 16	Piqua Copying Machine Co. .... 32	Pittsburg Locomotive Works. .... 13	Pittsburgh Plate Glass Co. .... 35	Pittsburg Tool Steel Co. .... 24	Plamondon, A., Mfg. Co. .... 27	Playford Stoker Co. .... 18	P. O. Box L. .... 26	Pomona Terra Cotta Co. .... 42	Pope Mfg. Co. .... 40	Porter, H. K., & Co. .... 13	Poulter & Co. .... 26	Powhatan Clay Mfg. Co. .... 35	Pratt, N. P., Laboratory. .... 6	Pratt & Whitney Co. .... 13	Pratt & Weir Chuck Co. .... 23	Price & Co. .... 28	Price & Heald. .... 28	Priestman & Co. .... 16	Providence Machine Co. .... 35	Pulsometer Steam Pump Co. .... 42																										
<b>Q</b>	Queen City Printing Ink Co. .... 26	Queen City Supply Co. .... 44																																																											
<b>R</b>	Rand Drill Co. .... 41	Rawson Electric Co. .... 47	Raymond & Gray. .... 47	Record Printing House. .... 21	Reed, F. E., Co. .... 12	Reliance Gauge Co. .... *	Remington Machine Co. .... 23	Repauno Chemical Co. .... 32	Rhoads, J. E., & Sons. .... 10	Richmond Loco. & Mch. Wks. .... 13	Robbins & Myers Co. .... 27	Roberts Mfg. Co. .... 8	Robertson, Jas., Mfg. Co. .... 44	Robinson, J. M., & Co. .... 34	Robinson, Wm. C., & Son. .... 40	Robison & Orr. .... 28	Rosendale-Reddaway Belting & Hose Co. .... 11	Rosway & Hermance Co. .... 30	Ruger, I. W., & Co. .... 16	Russell & Co. .... 45																																									
<b>S</b>	Sabel Bros. .... 8	Safe Deposit & Trust Co. .... 235	Samson Steel Belt Hook Co. .... 24	Sanderson, John. .... *	Saunder, L., Sons. .... 12	Schieren Chas. A., & Co. .... 12	Scott & Williams. .... 38	Seidel, R. B. .... 38	Seidel, R. D. .... 25	Shaw, Willis. .... 27	Shawhan-Thresher Electric Co. .... 47	Sherwood, H. M. .... 26	Shirk Co., The. .... 10	Shultz Belting Co. .... 10	Simpson, H. P. .... 48	Simpson, J. S. & G. F. .... 44	Sinclair-Scott Co. .... 8	Sinclair, S. H., Co. .... 8	Singer Mfg. Co. .... 9	Situations Wanted. .... 26	Skinner Chuck Co. .... 8	Smethurst & Allen. .... 47	Smith-Courtney Co. .... 17	Smith, S. Morgan, Co. .... 43	Smith & Kilby Co. .... 28	Snow Steam Pump Works. .... 42	Southeastern Lime & Cement Co. .... 6	Southern Fdry. & Mch. Works. .... 27	Southern Iron & Equipment Co. .... 28	Southern Iron Works. .... 21	Southern Log Cart & Supply Co. .... 28	Southern Railway Co. .... †	Southern Real Estate Exchange. .... 27	Spear's, Alden, Sons & Co. .... 33	Sperry, Jones & Co. .... 235	Springfield Gas Engine Co. .... 16	Sprout, Waldron & Co. .... 23	Stafford, F. M., & Co. .... 235	Standard Coal Co. .... 19	Standard Mill Supply Co. .... 38	Standard Oil Co. .... 35	Standard Paint Co. .... 35	Standard Tool Co. .... 48	Stanley Electric Mfg. Co. .... 46	Starr, B. F., & Co. .... 23	State Press Bureau. .... 27	Steel Rail Supply Co. .... 28	Steinwehr, Chas. F. .... 26	Sterling Emery Wheel Mfg. Co. .... 8	Stern & Rushmore. .... 235	Stevens, H., Sons Co. .... 48	Stewart, Jas. & Co. .... 6	Stiles & Pladd Press Co. .... 33	Stillwell-Bierce & Smith-Vallet Co. .... 39	Stow Flexible Shaft Co., Ltd. .... 9	Struthers, Wells & Co. .... 15	Stuebner, G. L., Iron Works. .... 17	Sturtevant, B. F., Co. .... 37	Sturtevant Mill Co. .... 44	Sullivan Machine Co. .... 45	Supervising Architect. .... 25
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<b>U</b>	Union Drawn Steel Co. .... 21	Union Electric Co. .... 47	Union Iron Works Co. .... 46	United Electric Improvement Co. .... 15	U. S. Sanitary Co. .... 32																																																								
<b>V</b>	Valdosta Foundry & Machine Co. .... 17	Valley Iron Works. .... 18	Valley Iron Works. .... 15	Vanduzen Co., The E. W. .... 43	Van Noorden, E., & Co. .... 6	Van Wile, Irwin. .... 42	Vitrified Wheel Co. .... 2																																																						
<b>W</b>	Wais & Roos Punch & Shear Co. .... 27	Walker & Elliott. .... 45	Warren Chemical & Mfg. Co. .... 34	Washington Slate Co. .... 34	Waterman, L. E., Co. .... 4	Watkins & Haraway. .... 28	Watson, Benjamin. .... 2	Webster, Warren, & Co. .... *	Welt Frog Co. .... 47	West Mfg. Co. .... 41	Western Electrical Supply Co. .... 47	Western Maryland Railroad. .... †	Westinghouse Air Brake Co., The. .... 4	Westinghouse Elec. & Mfg. Co. .... 46	Westinghouse Machine Co. .... 15	Wetherill, Robt., & Co. .... 18	Whaley W. B. Smith & Co. .... 6	Wheeling & Lake Erie R. way. .... †	White, L. & J., Co. .... 29	Whitinsville Spinning Ring Co. .... *	Whitney, Baxter D. .... 31	Wilkinson Mfg. Co. .... 20	Williams Bros. .... 43	Williams, Haskins, & Co. .... 28	Williams, I. B., & Sons. .... 11	Williams, J. H., & Co. .... 48	Williams, John L., & Son. .... 235	Williams & Schmid. .... 34	Williamsport Machine Co. .... 31	Willis, E. .... 27	Wilson Laundry Machinery Co. .... 8	Wingfield, Nisbet. .... 23	Wolf Co., The. .... 23	Wolf Co., Fred. W. .... 23	Wood, R. D., & Co. .... 10	Woodward & Stillman. .... 26	Worthington, Henry K. .... 24	Wright Co., The. .... 13	Wrightville Hardware Co. .... 47																						
<b>Y</b>	York Mfg. Co. .... 23	Young, W. B. .... 25																																																											
<b>Z</b>	Zier & Co., M. .... 17																																																												

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